STATIC RADAR CROSS SECTION OF LIGHT AIRCRAFT. VOLUME III. PIPER PA-18 SUPER CUB AT L-, S-, AND C-BANDS

Test Group (6585th)

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16. Abstract

Static radar cross section (RCS) of a single-engine fabric-covered Piper PA-18 Super Cub high wing monoplane was measured at 2700, 2800 and 2900 MHz over a range of aircraft attitudes of ±10° pitch, 0° to 45° roll, and also at 1250, 1350, 5000, and 5400 MHz at 0° roll, 0° pitch. Median RCS was independent of frequency in linear polarization and in circular polarization. The RCS was insensitive to roll, pitch, and yaw except in the two broadside directions under conditions of increasing roll angle. The report includes copies of the original recorded RCS patterns.

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SECTION I

1. Introduction

This document is Volume III of a three-volume set (References 1 and 2) on measurement of static radar cross section (RCS) of light aircraft. The measurement program comprised three types of single-engined aircraft:

a. All-metal high wing
b. All-metal low wing
c. Fabric-covered (high wing)

Type (c), represented by a Piper PA-18 Super Cub is the subject of this report. Measurements on a Cessna 150L, typical of type (a), are presented in Volume I (Reference 1), and the data on type (b), a Cherokee 140, are given in Volume II (Reference 2).

The objective of the program was to measure static RCS of typical light aircraft over a range of frequencies, polarizations, and aspect angles. These data would aid in defining the need for and amount of RCS enhancement on light aircraft to improve their visibility on FAA airport surveillance radars.

The data measurements were made at the Radar Target Scatter Division (RAT SCAT) of the 6585th Test Group located on the Alkali Flats, Holloman Air Force Base, New Mexico.

2. Description of Target

The RCS data presented in this report were measured on a Model PA-18 Super Cub manufactured by the Piper Aircraft Corporation, Lock Haven, Pennsylvania.

The aircraft was being re-furbished by the owners and was not in flying condition at the time of test although the basic structure and equipment were complete in all respects. The aircraft was trucked to the RAT SCAT test site where it was assembled and rigged. Figure 1 shows the aircraft mounted for test at zero degrees roll and zero degrees pitch. There were no antennas on the aircraft. The control surfaces were locked in neutral and the cabin door on the starboard side was closed.

3. Instrumentation

Data measurement was achieved with a long-pulse radar system operating on a ground plane range. Figure 2 illustrates the components

of the measurement range. The radar transmitter, receiver, control console, and data recorders were housed in a mobile van. The antennas were supported on a mobile tower. Rotation of the target in azimuth was controlled from the van through underground electrical conduit that also returned azimuth synchro signals to the van. A mobile test van was used on this program in order to operate over a range length not available on the RAT SCAT fixed ranges. Sections 1 and 2 of Appendix A and Table A-1 of Appendix A summarize the characteristics of RAT SCAT facilities and equipment. This information applies to the mobile-mounted equipment used for this program as well as to the fixed installations.

The RCS measurements presented in this report were obtained on a ground plane range wherein the target is measured near to the ground. The ground is present as a scattering object and in such a circumstance coupling between orthogonal components of the transmitted and received fields may exist other than the coupling introduced by the target. This coupling (or depolarizing) can be a problem only for measurement in circular polarization. References 3 and 4 describe the theoretical and experimental studies made on the subject specifically for the RAT SCAT range. It was shown that circular polarization measurements can be made on a ground plane range. The size of the useful target region is approximately the same when circular polarization is used as that obtained when linear polarization is used. The amplitude curvature in the vertical plane is the limiting factor in both cases. Standardized calibration procedures used at RAT SCAT assure the accuracy of RCS measurements using circular polarization.

The primary calibration standard for linear polarization was a 26.6 inch diameter precision aluminum sphere and was used at all measurement frequencies. The calibration standard for circular polarization was a ninety-degree dihedral corner with square faces 0.85 meters in each dimension. This corner was calibrated against the precision sphere, making use of a 45° dipole to transfer from linear to circular polarization. The secondary reference standard was a trihedral corner placed approximately at mid-range (see Figure 2). The RCS level of this reference standard was used to set the decibel scale on all recorded RCS patterns and was utilized for both linear and circular polarization.

The radar antennas were parabolic dishes with dipole feeds for linear polarization and planar spiral feeds for circular polarization. Circularity was better than 0.7 dB at all frequencies.

4. Procedure

Data on this program were obtained at seven frequencies and three polarizations over a range of roll and pitch angles as summarized in Table I.

Table I - RCS Measurement Matrix

Freq. (Mlz)	Polarization	Roll Angle (Degrees)	Pitch Angle (Degrees)
1250	VV,HH,RR	0	0
1350	VV,HH,RR	0	0
2700	VV,--,RR	0,5,10,20,30,45	-10,-5,0,+5,+10
2800	VV,HH,RR	0,5,10,20,30,45	-10,-5,0,+5,+10
2900	VV,--,RR	0,5,10,20,30,45	-10,-5,0,+5,+10
5000	VV,HH,--	0	0
5400	VV,HH,--	0	0

The first letter designating polarization defines the polarization of the transmit antenna, the second letter defines polarization of the receive antenna. The nomenclature follows common practice in which only the spatial orientation of the electric field vector is specified: V for vertical, H for horizontal, R for right-hand circular.

The aircraft was supported at the azimuth turntable on two dielectric columns. The two columns were expanded polystyrene foam fabricated in vertical wedge sections to form a cone with circular cross section. On top of each column was a cylindrical transition section of polystyrene contoured on the upper ends to match the curvature of polystyrene rings attached to the aircraft fuselage. The rings transferred the mounting loads into the fuselage welded steel tube framework in order to avoid damage to the outer fabric covering. The forward ring was in the plane of the firewall.

The aircraft was lifted by a mobile crane and carefully lowered onto the transition sections on top of each column. Lengths of parachute cord tied to the fuselage, tail wheel, and wing struts were anchored to winches fastened on the azimuth turntable. The transition sections on the two columns established the aircraft pitch angle while roll angle was achieved simply by rolling the aircraft on the support rings. Final adjustment of pitch and roll was achieved by altering tension in various tie-down cords in whatever combination was necessary. Roll and pitch angle were measured at the propeller hub. With the propeller rotated to an index line roll angle was measured with a transit sighting on a protractor fixed to the propeller hub. Pitch angle was measured on the front

of the propeller hub with an inclinometer. Pitch angle thus was measured with respect to the axis of the engine crankshaft. Both roll and pitch were set to an accuracy of ± 0.5 degrees.

Figure 1 shows the Super Cub mounted on the columns and ready for measurement at zero degrees roll, zero degrees pitch. The two support rings were made of two pound per cubic foot density expanded polystyrene foam and were in place for all RCS measurements.

Target height was 14 feet at L- and C-Bands, 16 feet at S-Band. Target height is the vertical distance between ground level and a horizontal line (the pitch axis) through the half height of the fuselage midway between aircraft nose and tail, measured with the aircraft in level flight attitude. Figure 3 illustrates the relation between target height and the axes of pitch and yaw.

A target being measured on a ground plane range is in an electromagnetic field that is the vector sum of (1) the wave energy that travels directly from antenna to target, (2) the wave energy reflected from the surface of the earth, and (3) the wave energy that travels along the surface of the earth. The vector sum produces an interference pattern. Antenna height is adjusted so that the target is located in the first lobe of the interference pattern described by the equation

$$H_a = \frac{\lambda R}{4H_t}$$

where H_a is antenna height, H_t is target height, λ is wavelength, and R is range length. In order to obtain accurate RCS measurements the following steps are required:

(a) Adjust antenna height and pointing direction for best field uniformity across the volume occupied by the target.

(b) Tilt the azimuth turntable so the target rotates in the plane of the antenna beam.

(c) Minimize reflections from target supports, tie-downs and turntable.

(d) Calibrate the range at all frequencies and polarizations.

The range parameters used on the program after the above steps were carried out at each frequency are summarized in Table II.

Measurement of RCS began with the three frequencies in S-Band: 2700 MHz, 2800 MHz and 2900 MHz. Because of the large effort required

to mount the target for measurement it was prudent to record as many RCS patterns as possible for each mounting of the target. For that reason four antennas were used: one pair for linear polarization, the other pair for circular polarization. The antenna pairs were switched to the radar transmitter and receiver as required. That arrangement allowed measurement of seven RCS patterns for each roll/pitch attitude of the target. If weather conditions remained favorable upon completion of such a pattern group the target was set to the next roll/pitch attitude and RCS measurement continued until dark at which time a post-test calibration was then made. If weather became unfavorable (wind velocity above 10 knots, or rain) the target was removed from the turntable and the post-test calibration was made as quickly as possible. In any event the aircraft was not measured in wind velocity above 10 knots or after dark, and the range was calibrated before and after a sequence of measurement. The post-test calibration for one day was not used as the pre-test calibration for the next sequence of measurement. Each day began with a new calibration.

At L-Band (1250 Mhz and 1350 Mhz) one pair of antennas was used instead of two pair because only one target roll/pitch attitude was measured (see Table I). The two linear patterns were measured at each frequency followed by the post-test calibration. The linear feeds were replaced by the circular feeds and a new calibration was made at the two frequencies. The required patterns in circular polarization were then measured and were followed by a post-test calibration.

5. Results

The RCS patterns presented in this report are copies of the original recorded data. Each pattern includes a calibration reference level from which the decibel scale was labelled. Each pattern also is marked with azimuth angle (horizontal scale at the bottom), and is identified as to pitch and roll angle, all of which are defined in Appendix B.

The RCS of the Super Cub was fairly insensitive to roll, pitch and yaw (azimuth angle) except in the broadside directions with increasing roll angle. The aircraft structure consisted of a metal framework covered by fabric that had a fire-retardent plastic finish. The outer surface of the aircraft was thus a thin dielectric layer. The aircraft RCS was the combination of reflections from the dielectric surface and from the large number of conductive elements (pipe, angles, plates) making up the aircraft load-bearing structure. The conductive elements presented to the incident radar field a wide range of lengths, polarizations, and areas that changed only slightly with aspect angle (except in the broadside directions at increasing roll angles). The result was a uniform RCS response.

With the aircraft at zero degrees roll and zero degrees pitch the median RCS in linear polarization and in circular polarization was independent of frequency over the range of measurement. In linear polarization the median RCS was the same for VV as for HH.

The measured RCS patterns show the affect of frequency only for the zero degrees roll, zero degrees pitch attitude of the aircraft. It can be noted that the ratio of fuselage length (6.88m) to wavelength is between 288 and 124 over the measured frequency range, indicating that RCS is in the geometric optics region. From this it can be inferred that median RCS may be independent of frequency at all attitudes of the aircraft.

Figure 4 indicates the affect of positive roll angle (at zero degrees pitch) on median RCS at 2800 MHz, VV polarization. Contours of median RCS in dbsm are plotted in the azimuth-roll plane. (Median RCS was computed for a 10 degree azimuth increment with a 5 degree overlap). Vertical lines through the plot indicate the affect of roll angle at a given azimuth direction. Variation of RCS with roll angle was greatest in the two broadside directions, i.e. near 90° azimuth and 270° azimuth. In the 270° azimuth direction where the radar viewed the underside of the wing and fuselage as the aircraft rolled the RCS displayed three peaks and two 5 db deep nulls in rolling to 45 degrees. In the 90° azimuth direction (the radar viewed the upper surface of wing and fuselage) the RCS displayed two peaks and one 8 db deep null for the same 45 degrees of roll. In other azimuth directions the RCS varied 2 db or less over 45 degrees of roll.

6. References

1. AFSWC-TR-73-46, Volume I, Static RCS of Light Aircraft, Cessna 150L at L-, S-, C-Band, December 1973.

2. AFSWC-TR-73-46, Volume II, Static RCS of Light Aircraft, Cherokee 140 at L-, S-, C-Band, December 1973.

3. RADC-TDR-63-484, An Analysis of the Polarization Capabilities of a Ground Plane Cross Section Range, October 1963.

4. RADC-TDR-64-380, Experimental Results of Circular Polarization and Scattering Matrix Measurements, June 1964.

Table II Test Range Parameters for Super Cub RCS Measurements

Freq. (MHz)	Target Ht. (ft)	Antenna Ht.	Antenna Diameter (ft)	Range (ft)	Table Tilt (Min)
1250	14	12'-6"	10	1150	42
1350	14	12'-6"	10	1150	42
2700	16	12'-6"	6	2100	26
2800	16	12'-6"	6	2100	26
2900	16	12'-6"	6	2100	26
5000	14	6'-5"	4	2100	23
5400	14	5'-10"	4	2100	23

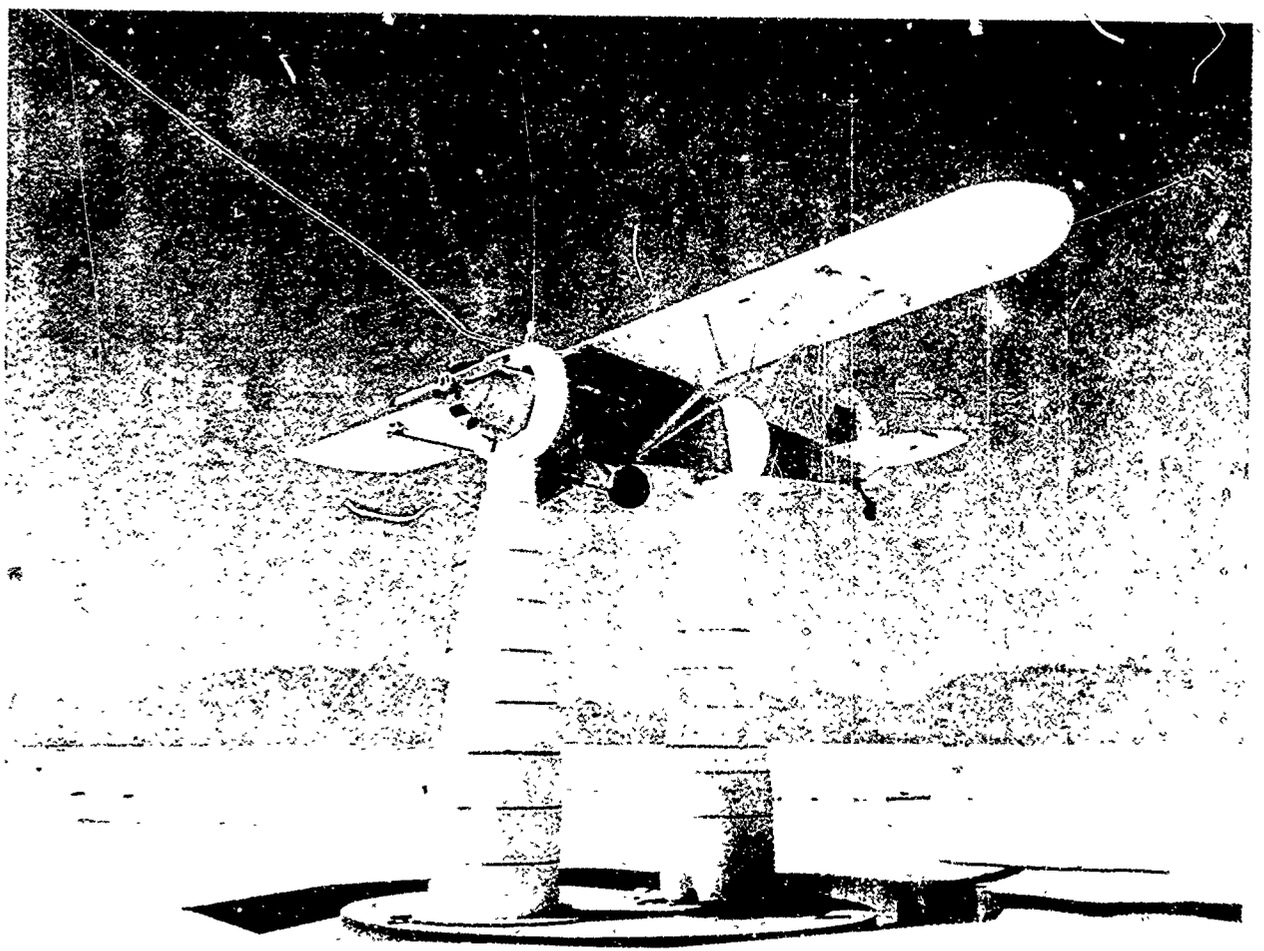

Figure 1. PIPER PA-18 Super Cub Mounted On Columns For RCS Measurements at 0^{o} Roll, 0^{o} Pitch.

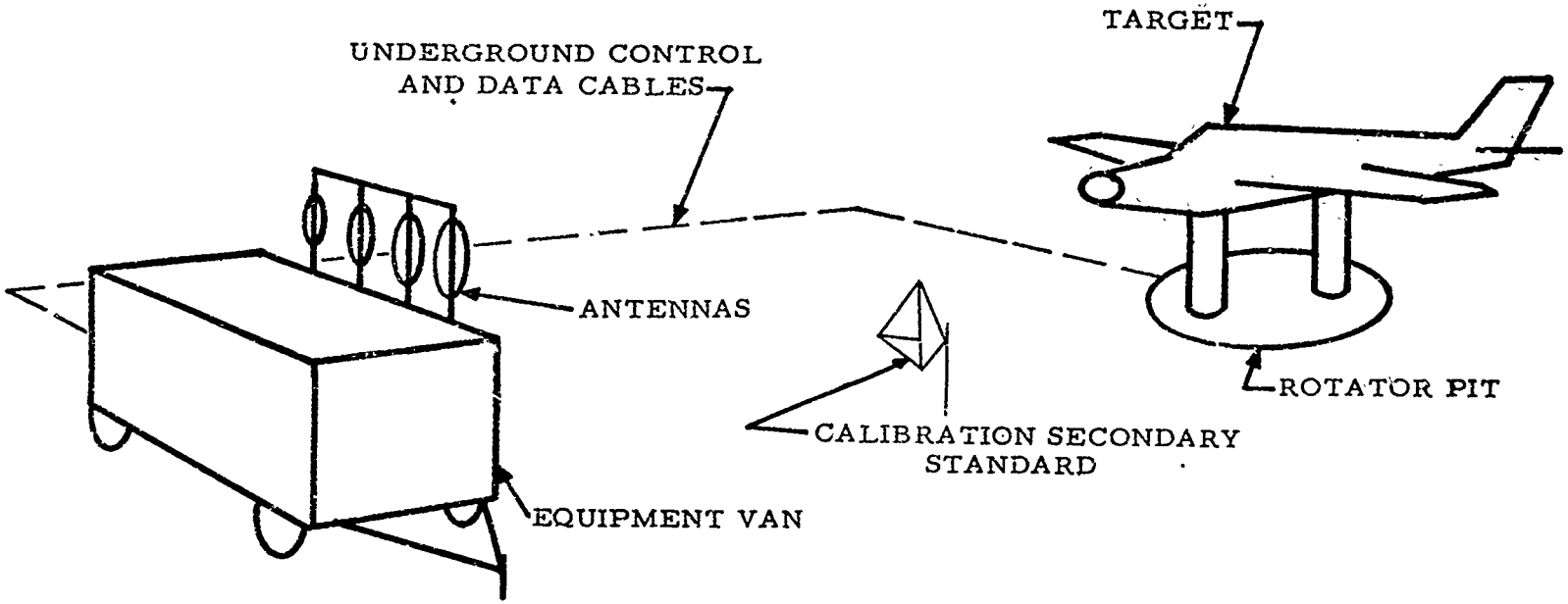

Figure 2. Elements of the Radar Measurement Range

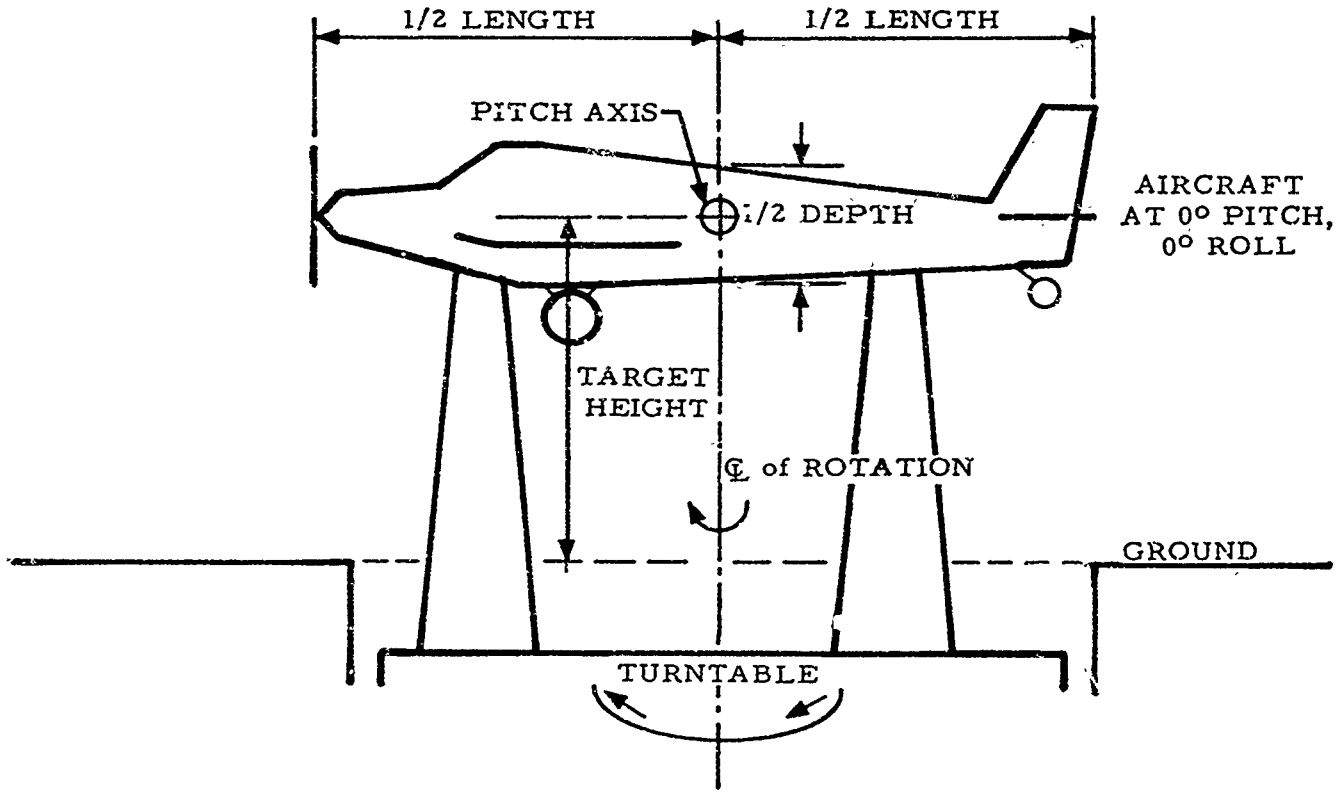

Figure 3. Aircraft Mounting Geometry Showing Location of Pitch Axis, Yaw Axis and Designation of Target Height

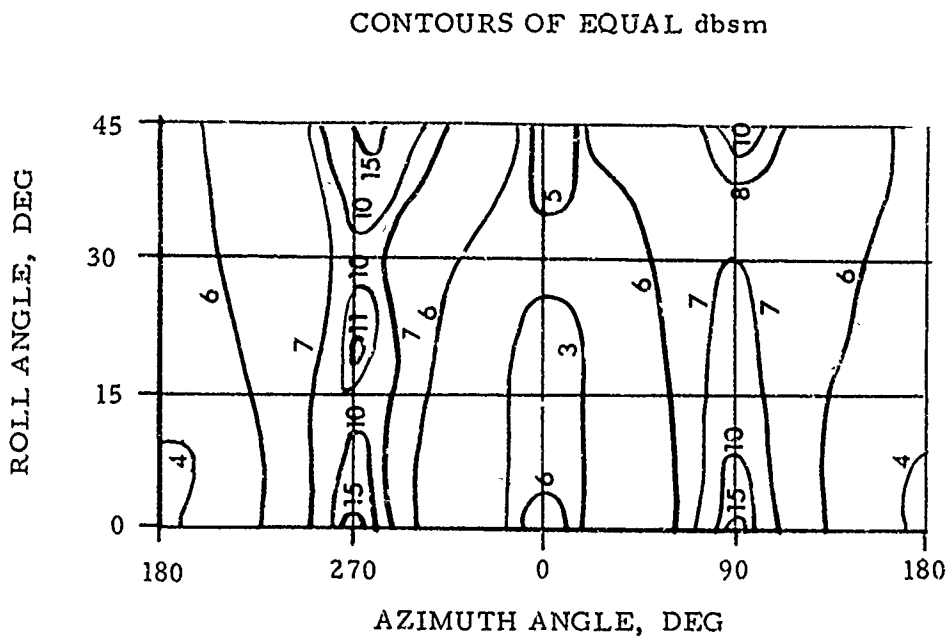

Figure 4. Affect of Roll Angle on Median RCS at 2800MHz, VV Polarization

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PAGE NO.	RUN	FREQ (MHz)	POLARIZATION	PITCH ANGLE	ROLL ANGLE	TARGET CONFIGURATION AND REMARKS
20	1023	2700	VV	-10	0	Super Cub PA-18 Airplane
21	1035	2700	VV	- 5	0	Super Cub PA-18 Airplane
22	892	2700	VV	0	0	Super Cub PA-18 Airplane
23	1113	2700	VV	+ 5	0	Super Cub PA-18 Airplane
24	1134	2700	VV	+10	0	Super Cub PA-18 Airplane
25	1022	2700	VV	-10	5	Super Cub PA-18 Airplane
26	1037	2700	VV	- 5	5	Super Cub PA-18 Airplane
27	905	2700	VV	0	5	Super Cub PA-18 Airplane
28	1100	2700	VV	+ 5	5	Super Cub PA-18 Airplane
29	1135	2700	VV	+10	5	Super Cub PA-18 Airplane
30	1009	2700	VV	-10	10	Super Cub PA-18 Airplane
31	1058	2700	VV	- 5	10	Super Cub PA-18 Airplane
32	906	2700	VV	0	10	Super Cub PA-18 Airplane
33	1099	2700	VV	+ 5	10	Super Cub PA-18 Airplane
34	1148	2700	VV	+10	10	Super Cub PA-18 Airplane
35	1007	2700	VV	-10	20	Super Cub PA-18 Airplane
36	1071	2700	VV	- 5	20	Super Cub PA-18 Airplane
37	913	2700	VV	0	20	Super Cub PA-18 Airplane
38	1086	2700	VV	+ 5	20	Super Cub PA-18 Airplane
39	1149	2700	VV	+10	20	Super Cub PA-18 Airplane
40	982	2700	VV	-10	30	Super Cub PA-18 Airplane
41	1072	2700	VV	- 5	30	Super Cub PA-18 Airplane
42	934	2700	VV	0	30	Super Cub PA-18 Airplane
43	1085	2700	VV	+ 5	30	Super Cub PA-18 Airplane
44	1156	2700	VV	+10	30	Super Cub PA-18 Airplane
45	969	2700	VV	-10	45	Super Cub PA-18 Airplane
46	948	2700	VV	- 5	45	Super Cub PA-18 Airplane
47	947	2700	VV	0	45	Super Cub PA-18 Airplane
48	1197	2700	VV	+ 5	45	Super Cub PA-18 Airplane
49	1184	2700	VV	+10	45	Super Cub PA-18 Airplane
50	1163	2700	VV	N/A	N/A	Background with columns and transitions
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Table III DATA PLOT INDEX Sheet 2

PAGE NO.	RUN	FREQ (MHz)	POLARIZATION	PITCH ANGLE	ROLL ANGLE	TARGET CONFIGURATION AND REMARKS
51	1024	2700	RR	-10	0	Super Cub PA-18 Airplane
52	1036	2700	RR	- 5	0	Super Cub PA-18 Airplane
53	893	2700	RR	0	0	Super Cub PA-18 Airplane
54	1112	2700	RR	+ 5	0	Super Cub PA-18 Airplane
55	1133	2700	RR	+10	0	Super Cub PA-18 Airplane
56	1023	2700	RR	-10	5	Super Cub PA-18 Airplane
57	1038	2700	RR	- 5	5	Super Cub PA-18 Airplane
58	904	2700	RR	0	5	Super Cub PA-18 Airplane
59	1101	2700	RR	+ 5	5	Super Cub PA-18 Airplane
60	1136	2700	RR	+10	5	Super Cub PA-18 Airplane
61	1010	2700	RR	-10	10	Super Cub PA-18 Airplane
62	1059	2700	RR	- 5	10	Super Cub PA-18 Airplane
63	907	2700	RR	0	10	Super Cub PA-18 Airplane
64	1098	2700	RR	+ 5	10	Super Cub PA-18 Airplane
65	1147	2700	RR	+10	10	Super Cub PA-18 Airplane
66	1006	2700	RR	-10	20	Super Cub PA-18 Airplane
67	1070	2700	RR	- 5	20	Super Cub PA-18 Airplane
68	914	2700	RR	0	20	Super Cub PA-18 Airplane
69	1087	2700	RR	+ 5	20	Super Cub PA-18 Airplane
70	1150	2700	RR	+10	20	Super Cub PA-18 Airplane
71	983	2700	RR	-10	30	Super Cub PA-18 Airplane
72	1073	2700	RR	- 5	30	Super Cub PA-18 Airplane
73	935	2700	RR	0	30	Super Cub PA-18 Airplane
74	1084	2700	RR	+ 5	30	Super Cub PA-18 Airplane
75	1157	2700	RR	+10	30	Super Cub PA-18 Airplane
76	970	2700	RR	-10	45	Super Cub PA-18 Airplane
77	949	2700	RR	- 5	45	Super Cub PA-18 Airplane
78	946	2700	RR	0	45	Super Cub PA-18 Airplane
79	1196	2700	RR	+ 5	45	Super Cub PA-18 Airplane
80	1165	2700	RR	+10	45	Super Cub PA-18 Airplane
81	1164	2700	RR	N/A	N/A	Background with columns and transitions
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CONTROL NUMBER 73-01 Table III DATA PLOT INDEX Sheet 3

PAGE NO.	RUN	FREQ (MHz)	POLARI-ZATION	PITCH ANGLE	ROLL ANGLE	TARGET CONFIGURATION AND REMARKS
82	1027	2800	VV	-10	0	Super Cub PA-18 Airplane
83	1034	2800	VV	- 5	0	Super Cub PA-18 Airplane
84	896	2800	VV	0	0	Super Cub PA-18 Airplane
85	1109	2800	VV	+ 5	0	Super Cub PA-18 Airplane
86	1132	2800	VV	+10	0	Super Cub PA-18 Airplane
87	1020	2800	VV	-10	5	Super Cub PA-18 Airplane
88	1041	2800	VV	- 5	5	Super Cub PA-18 Airplane
89	901	2800	VV	0	5	Super Cub PA-18 Airplane
90	1102	2800	VV	+ 5	5	Super Cub PA-18 Airplane
91	1139	2800	VV	+10	5	Super Cub PA-18 Airplane
92	1013	2800	VV	-10	10	Super Cub PA-18 Airplane
93	1062	2800	VV	- 5	10	Super Cub PA-18 Airplane
94	910	2800	VV	0	10	Super Cub PA-18 Airplane
95	1095	2800	VV	+ 5	10	Super Cub PA-18 Airplane
96	1146	2800	VV	+10	10	Super Cub PA-18 Airplane
97	1001	2800	VV	-10	20	Super Cub PA-18 Airplane
98	1067	2800	VV	- 5	20	Super Cub PA-18 Airplane
99	917	2800	VV	0	20	Super Cub PA-18 Airplane
100	1090	2800	VV	+ 5	20	Super Cub PA-18 Airplane
101	1153	2800	VV	+10	20	Super Cub PA-18 Airplane
102	980	2800	VV	-10	30	Super Cub PA-18 Airplane
103	1076	2800	VV	- 5	30	Super Cub PA-18 Airplane
104	938	2800	VV	0	30	Super Cub PA-18 Airplane
105	1081	2800	VV	+ 5	30	Super Cub PA-18 Airplane
106	1160	2800	VV	+10	30	Super Cub PA-18 Airplane
107	973	2800	VV	-10	45	Super Cub PA-18 Airplane
108	952	2800	VV	- 5	45	Super Cub PA-18 Airplane
109	943	2800	VV	0	45	Super Cub PA-18 Airplane
110	1193	2800	VV	+ 5	45	Super Cub PA-18 Airplane
111	1188	2800	VV	+10	45	Super Cub PA-18 Airplane
112	1166	2800	VV	N/A	N/A	Background with columns and transitions
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CONTROL NUMBER 73-01 Table III DATA PLOT INDEX Sheet 4

PAGE NO.	RUN	FREQ (MHz)	POLARIZATION	PITCH ANGLE	ROLL ANGLE	TARGET CONFIGURATION AND REMARKS
113	1025	2800	HH	-10	0	Super Cub PA-18 Airplane
114	1032	2800	HH	- 5	0	Super Cub PA-18 Airplane
115	895	2800	HH	0	0	Super Cub PA-18 Airplane
116	1111	2800	HH	+ 5	0	Super Cub PA-18 Airplane
117	1131	2800	HH	+10	0	Super Cub PA-18 Airplane
118	1019	2800	HH	-10	5	Super Cub PA-18 Airplane
119	1039	2800	HH	- 5	5	Super Cub PA-18 Airplane
120	902	2800	HH	0	5	Super Cub PA-18 Airplane
121	1104	2800	HH	+ 5	5	Super Cub PA-18 Airplane
122	1138	2800	HH	+10	5	Super Cub PA-18 Airplane
123	1012	2800	HH	-10	10	Super Cub PA-18 Airplane
124	1061	2800	HH	- 5	10	Super Cub PA-18 Airplane
125	908	2800	HH	0	10	Super Cub PA-18 Airplane
126	1097	2800	HH	+ 5	10	Super Cub PA-18 Airplane
127	1145	2800	HH	+10	10	Super Cub PA-18 Airplane
128	1002	2800	HH	-10	20	Super Cub PA-18 Airplane
129	1068	2800	HH	- 5	20	Super Cub PA-18 Airplane
130	915	2800	HH	0	20	Super Cub PA-18 Airplane
131	1089	2800	HH	+ 5	20	Super Cub PA-18 Airplane
132	1152	2800	HH	+10	20	Super Cub PA-18 Airplane
133	979	2800	HH	-10	30	Super Cub PA-18 Airplane
134	1075	2800	HH	- 5	30	Super Cub PA-18 Airplane
135	937	2800	HH	0	30	Super Cub PA-18 Airplane
136	1082	2800	HH	+ 5	30	Super Cub PA-18 Airplane
137	1159	2800	HH	+10	30	Super Cub PA-18 Airplane
138	972	2800	HH	-10	45	Super Cub PA-18 Airplane
139	951	2800	HH	- 5	45	Super Cub PA-18 Airplane
140	944	2800	HH	0	45	Super Cub PA-18 Airplane
141	1194	2800	HH	+ 5	45	Super Cub PA-18 Airplane
142	1187	2800	HH	+10	45	Super Cub PA-18 Airplane
143	1167	2800	HH	N/A	N/A	Background with columns and transitions
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CONTROL NUMBER 73-01 Table III DATA PLOT INDEX Sheet 5

PAGE NO.	RUN	FREQ (MHz)	POLARI-ZATION	PITCH ANGLE	ROLL ANGLE	TARGET CONFIGURATION AND REMARKS
144	1026	2800	RR	-10	0	Super Cub PA-18 Airplane
145	1033	2800	RR	- 5	0	Super Cub PA-18 Airplane
146	894	2800	RR	0	0	Super Cub PA-18 Airplane
147	1110	2800	RR	+ 5	0	Super Cub PA-18 Airplane
148	1130	2800	RR	+10	0	Super Cub PA-18 Airplane
149	1018	2800	RR	-10	5	Super Cub PA-18 Airplane
150	1040	2800	RR	- 5	5	Super Cub PA-18 Airplane
151	903	2800	RR	0	5	Super Cub PA-18 Airplane
152	1103	2800	RR	+ 5	5	Super Cub PA-18 Airplane
153	1137	2800	RR	+10	5	Super Cub PA-18 Airplane
154	1011	2800	RR	-10	10	Super Cub PA-18 Airplane
155	1060	2800	RR	- 5	10	Super Cub PA-18 Airplane
156	909	2800	RR	0	10	Super Cub PA-18 Airplane
157	1096	2800	RR	+ 5	10	Super Cub PA-18 Airplane
158	1144	2800	RR	+10	10	Super Cub PA-18 Airplane
159	1008	2800	RR	-10	20	Super Cub PA-18 Airplane
160	1069	2800	RR	- 5	20	Super Cub PA-18 Airplane
161	916	2800	RR	0	20	Super Cub PA-18 Airplane
162	1088	2800	RR	+ 5	20	Super Cub PA-18 Airplane
163	1151	2800	RR	+10	20	Super Cub PA-18 Airplane
164	978	2800	RR	-10	30	Super Cub PA-18 Airplane
165	1074	2800	RR	- 5	30	Super Cub PA-18 Airplane
166	936	2800	RR	0	30	Super Cub PA-18 Airplane
167	1083	2800	RR	+ 5	30	Super Cub PA-18 Airplane
168	1158	2800	RR	+10	30	Super Cub PA-18 Airplane
169	971	2800	RR	-10	45	Super Cub PA-18 Airplane
170	950	2800	RR	- 5	45	Super Cub PA-18 Airplane
171	945	2800	RR	0	45	Super Cub PA-18 Airplane
172	1195	2800	RR	+ 5	45	Super Cub PA-18 Airplane
173	1186	2800	RR	+10	45	Super Cub PA-18 Airplane
174	1165	2800	RR	N/A	N/A	Background with columns and transitions
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CONTROL NUMBER 73-01 Table III DATA PLOT INDEX Sheet 6

PAGE NO.	RUN	FREQ (MHz)	POLARI-ZATION	PITCH ANGLE	ROLL ANGLE	TARGET CONFIGURATION AND REMARKS
175	1028	2900	VV	-10	0	Super Cub PA-18 Airplane
176	1030	2900	VV	- 5	0	Super Cub PA-18 Airplane
177	898	2900	VV	0	0	Super Cub PA-18 Airplane
178	1107	2900	VV	+ 5	0	Super Cub PA-18 Airplane
179	1128	2900	VV	+10	0	Super Cub PA-18 Airplane
180	1016	2900	VV	-10	5	Super Cub PA-18 Airplane
181	1042	2900	VV	- 5	5	Super Cub PA-18 Airplane
182	899	2900	VV	0	5	Super Cub PA-18 Airplane
183	1106	2900	VV	+ 5	5	Super Cub PA-18 Airplane
184	1141	2900	VV	+10	5	Super Cub PA-18 Airplane
185	1015	2900	VV	-10	10	Super Cub PA-18 Airplane
186	1064	2900	VV	- 5	10	Super Cub PA-18 Airplane
187	911	2900	VV	0	10	Super Cub PA-18 Airplane
188	1093	2900	VV	+ 5	10	Super Cub PA-18 Airplane
189	1142	2900	VV	+10	10	Super Cub PA-18 Airplane
190	1004	2900	VV	-10	20	Super Cub PA-18 Airplane
191	1065	2900	VV	- 5	20	Super Cub PA-18 Airplane
192	918	2900	VV	0	20	Super Cub PA-18 Airplane
193	1092	2900	VV	+ 5	20	Super Cub PA-18 Airplane
194	1155	2900	VV	+10	20	Super Cub PA-18 Airplane
195	976	2900	VV	-10	30	Super Cub PA-18 Airplane
196	1078	2900	VV	- 5	30	Super Cub PA-18 Airplane
197	940	2900	VV	0	30	Super Cub PA-18 Airplane
198	1079	2900	VV	+ 5	30	Super Cub PA-18 Airplane
199	1162	2900	VV	+10	30	Super Cub PA-18 Airplane
200	975	2900	VV	-10	45	Super Cub PA-18 Airplane
201	954	2900	VV	- 5	45	Super Cub PA-18 Airplane
202	941	2900	VV	0	45	Super Cub PA-18 Airplane
203	1191	2900	VV	+ 5	45	Super Cub PA-18 Airplane
204	1190	2900	VV	+10	45	Super Cub PA-18 Airplane
205	1169	2900	VV	N/A	N/A	Background with columns and transitions
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CONTROL NUMBER 73-01 — Table III DATA PLOT INDEX Sheet 7

PAGE NO.	RUN	FREQ (MHz)	POLARIZATION	PITCH ANGLE	ROLL ANGLE	TARGET CONFIGURATION AND REMARKS
206	1029	2900	RR	-10	0	Super Cub PA-18 Airplane
207	1031	2900	RR	- 5	0	Super Cub PA-18 Airplane
208	897	2900	RR	0	0	Super Cub PA-18 Airplane
209	1108	2900	RR	+ 5	0	Super Cub PA-13 Airplane
210	1129	2900	RR	+10	0	Super Cub PA-18 Airplane
211	1017	2900	RR	-10	5	Super Cub PA-18 Airplane
212	1043	2900	RR	- 5	5	Super Cub PA-18 Airplane
213	900	2900	RR	0	5	Super Cub PA-18 Airplane
214	1105	2900	RR	+ 5	5	Super Cub PA-18 Airplane
215	1140	2900	RR	+10	5	Super Cub PA-18 Airplane
216	1014	2900	RR	-10	10	Super Cub PA-18 Airplane
217	1063	2900	RR	- 5	10	Super Cub PA-18 Airplane
218	912	2900	RR	0	10	Super Cub PA-18 Airplane
219	1094	2900	RR	+ 5	10	Super Cub PA-18 Airplane
220	1143	2900	RR	+10	10	Super Cub PA-18 Airplane
221	1003	2900	RR	-10	20	Super Cub PA-18 Airplane
222	1066	2900	RR	- 5	20	Super Cub PA-18 Airplane
223	919	2900	RR	0	20	Super Cub PA-18 Airplane
224	1091	2900	RR	+ 5	20	Super Cub PA-18 Airplane
225	1154	2900	RR	+10	20	Super Cub PA-18 Airplane
226	977	2900	RR	-10	30	Super Cub PA-18 Airplane
227	1077	2900	RR	- 5	30	Super Cub PA-18 Airplane
228	939	2900	RR	0	30	Super Cub PA-18 Airplane
229	1080	2900	RR	+ 5	30	Super Cub PA-18 Airplane
230	1161	2900	RR	+10	30	Super Cub PA-18 Airplane
231	974	2900	RR	-10	45	Super Cub PA-18 Airplane
232	953	2900	RR	- 5	45	Super Cub PA-18 Airplane
233	942	2900	RR	0	45	Super Cub PA-18 Airplane
234	1192	2900	RR	+ 5	45	Super Cub PA-18 Airplane
235	1189	2900	RR	+10	45	Super Cub PA-18 Airplane
236	1168	2900	RR	N/A	N/A	Background with columns and transitions
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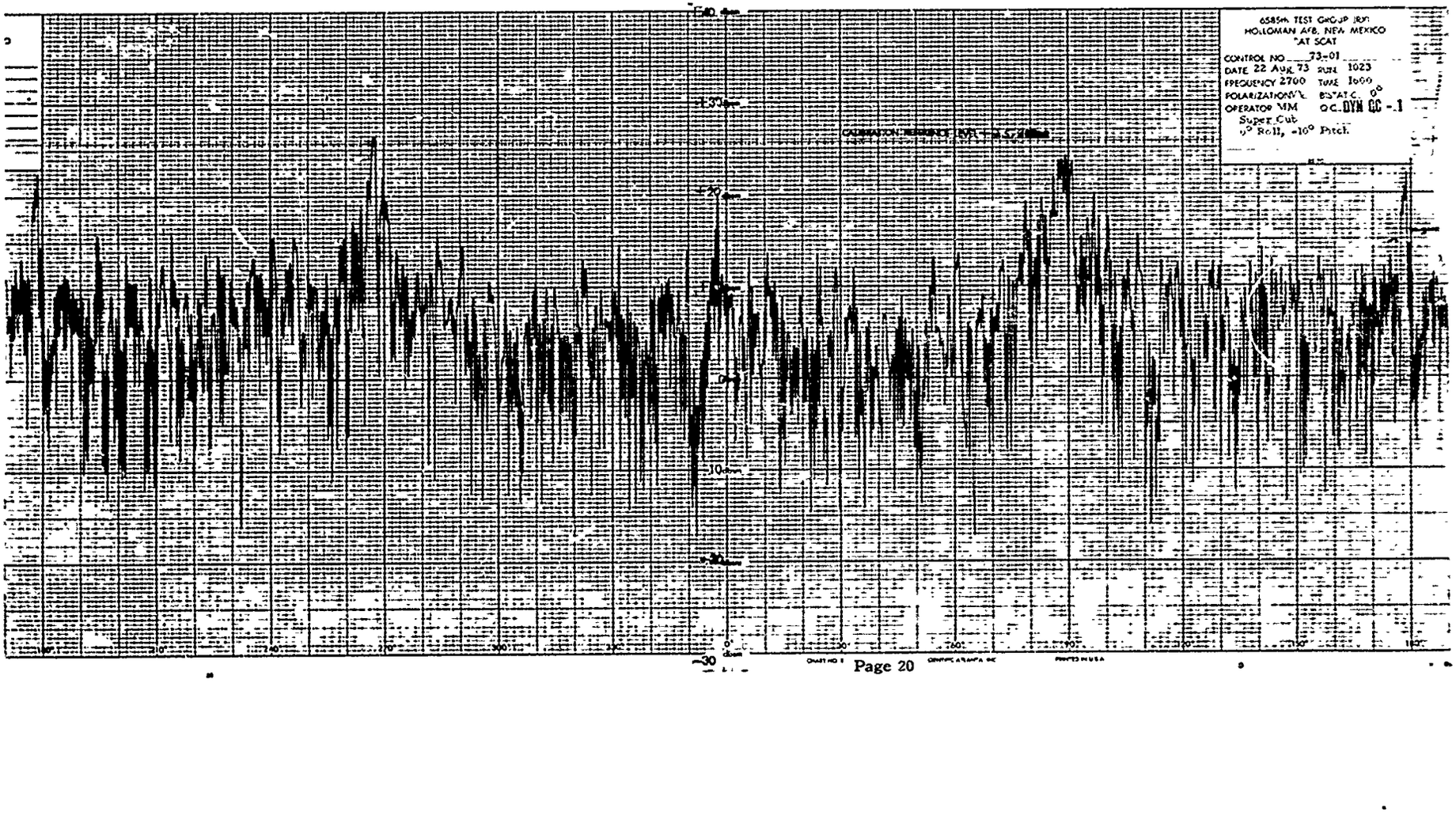
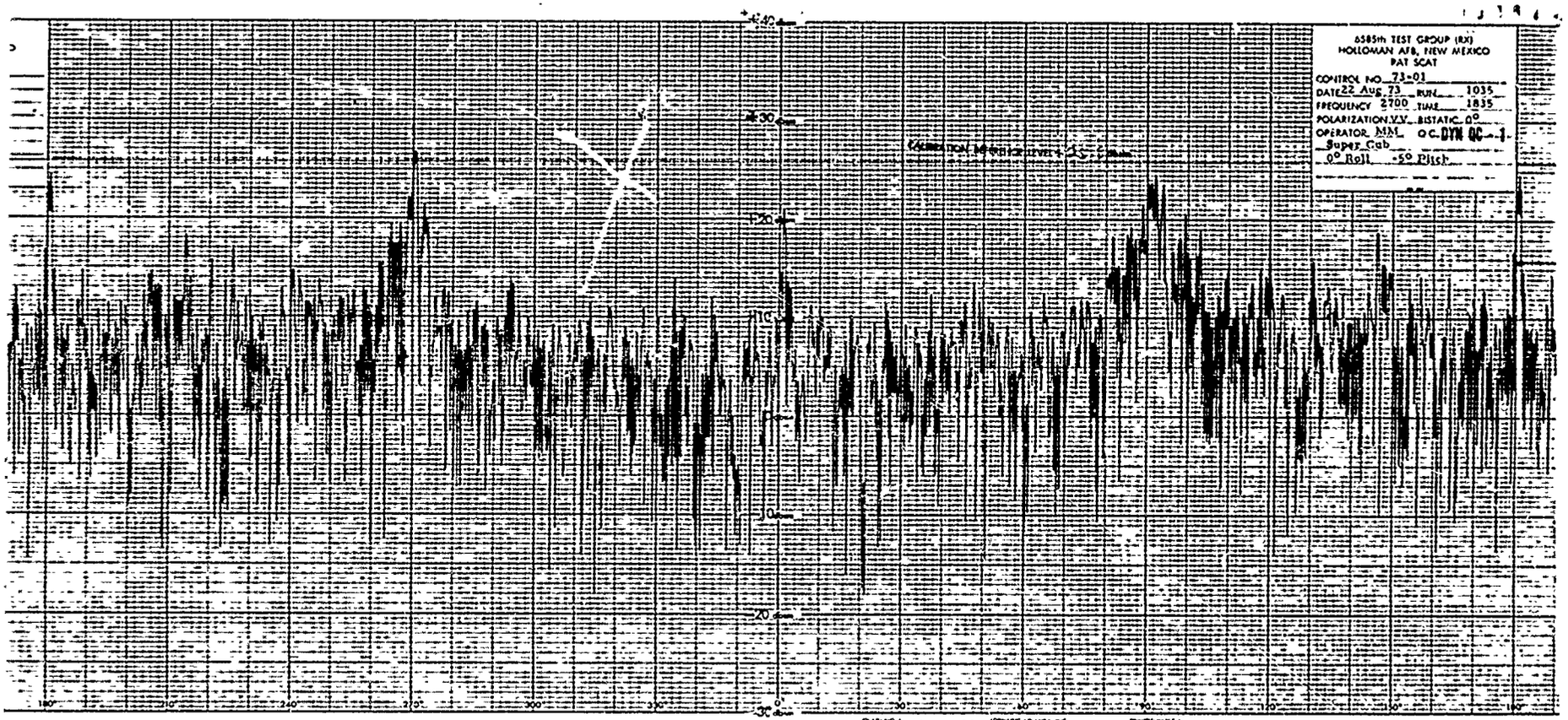
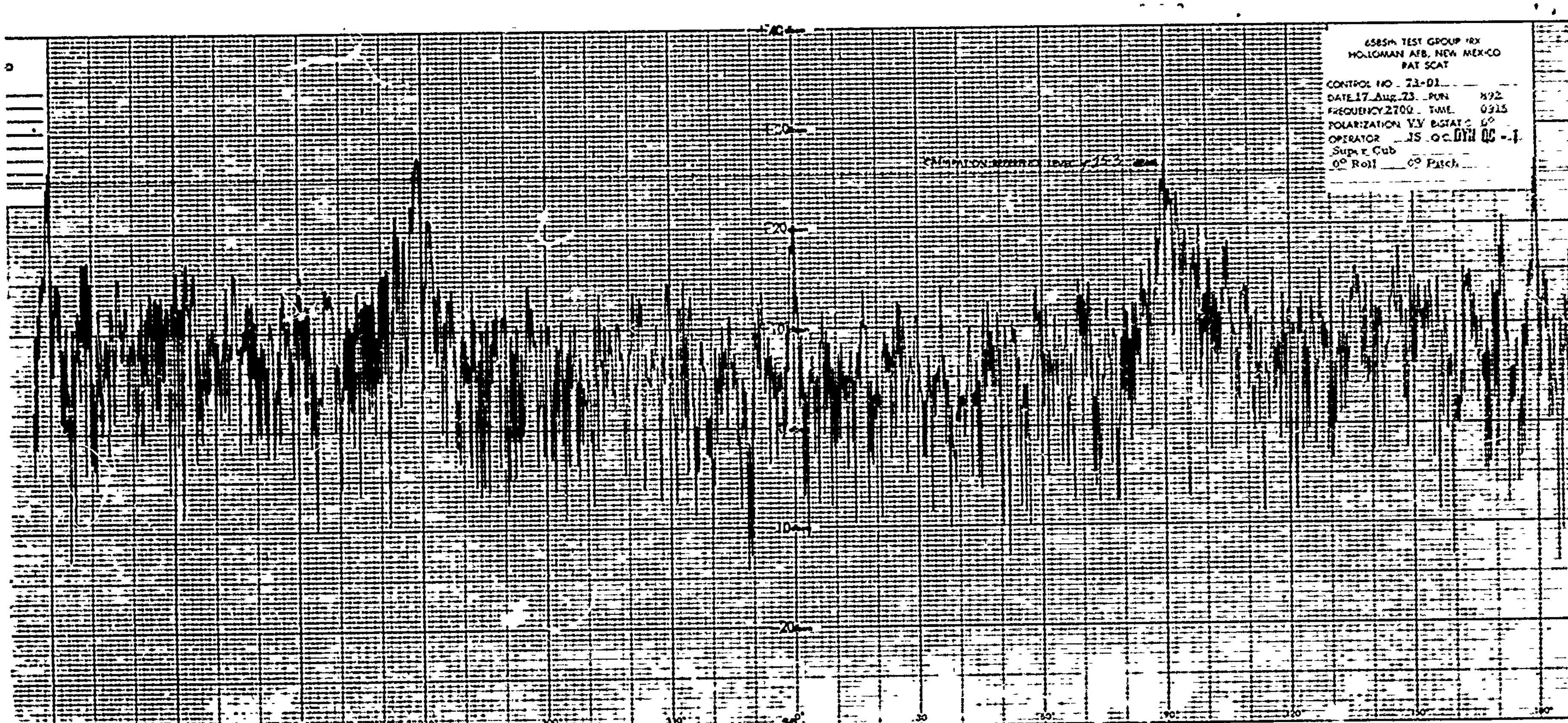
CONTROL NUMBER 73-01 Table III **DATA PLOT INDEX** Sheet 8

PAGE NO.	RUN	FREQ (MHz)	POLARI-ZATION	PITCH ANGLE	ROLL ANGLE	TARGET CONFIGURATION AND REMARKS
237	1509	1250	VV	0	0	Super Cub PA-18 Airplane
238	1508	1250	HH	0	0	Super Cub PA-18 Airplane
239	1546	1250	RR	0	0	Super Cub PA-18 Airplane
240	1510	1350	VV	0	0	Super Cub PA-18 Airplane
241	1511	1350	HH	0	0	Super Cub PA-18 Airplane
242	1547	1350	RR	0	0	Super Cub PA-18 Airplane
243	1564	5000	VV	0	0	Super Cub PA-18 Airplane
244	1563	5000	HH	0	0	Super Cub PA-18 Airplane
245	1561	5400	VV	0	0	Super Cub PA-18 Airplane
246	1562	5400	HH	0	0	Super Cub PA-18 Airplane
247	1574	5000	VV	N/A	N/A	Background with columns and transitions
248	1575	5000	HH	N/A	N/A	Background with columns and transitions
249	1577	5400	VV	N/A	N/A	Background with columns and transitions
250	1576	5400	HH	N/A	N/A	Background with columns and transitions


6585th TEST GROUP (RY)
HOLLOMAN AFB, NEW MEXICO
"AT SCAT
CONTROL NO 73-01
DATE 22 AUG 73 RUN 1023
FREQUENCY 2700 TIME 1600
POLARIZATION V-V BISTAT C 0°
OPERATOR VM OC DYN CC -1
Super Cub
0° Roll, -10° Pitch
-10 dbsm
-30
0°
30°
60°
90°
120°
150°
180°


6585th TEST GROUP (RX)
HOLLOMAN AFB, NEW MEXICO
PAT SCAT
CONTROL NO. 73-01
DATE 22 Aug 73 RUN 1035
FREQUENCY 2700 TIME 1835
POLARIZATION V,V BISTATIC 0°
OPERATOR MM OC DYN QC-1
Super Cub
0° Roll -50 Pitch
-40 dbsm
-30 dbsm
-20 dbsm
-10 dbsm
0 dbsm
180°
210°
240°
270°
300°
330°
0°
30°
60°
90°
120°
150°
180°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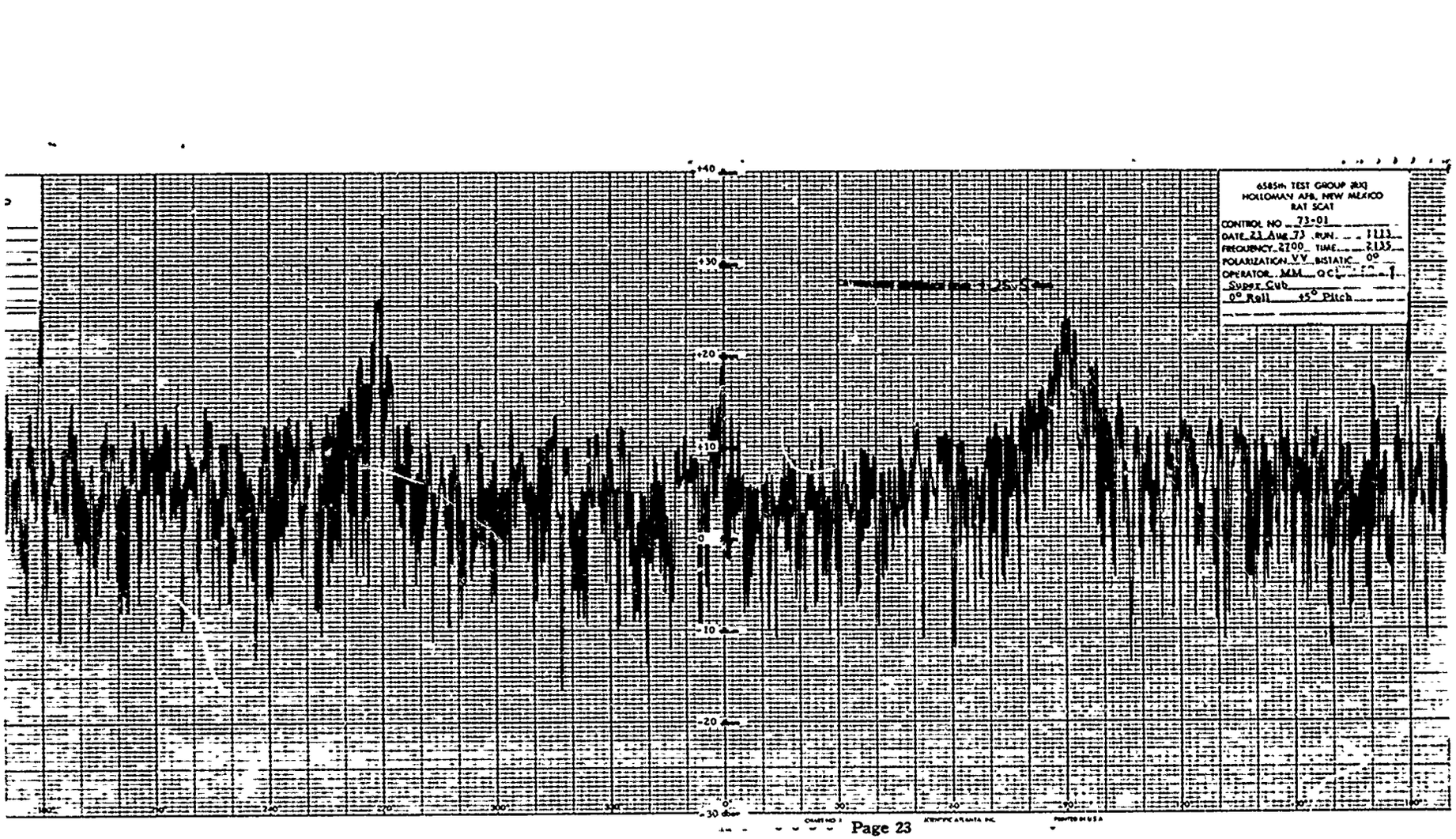
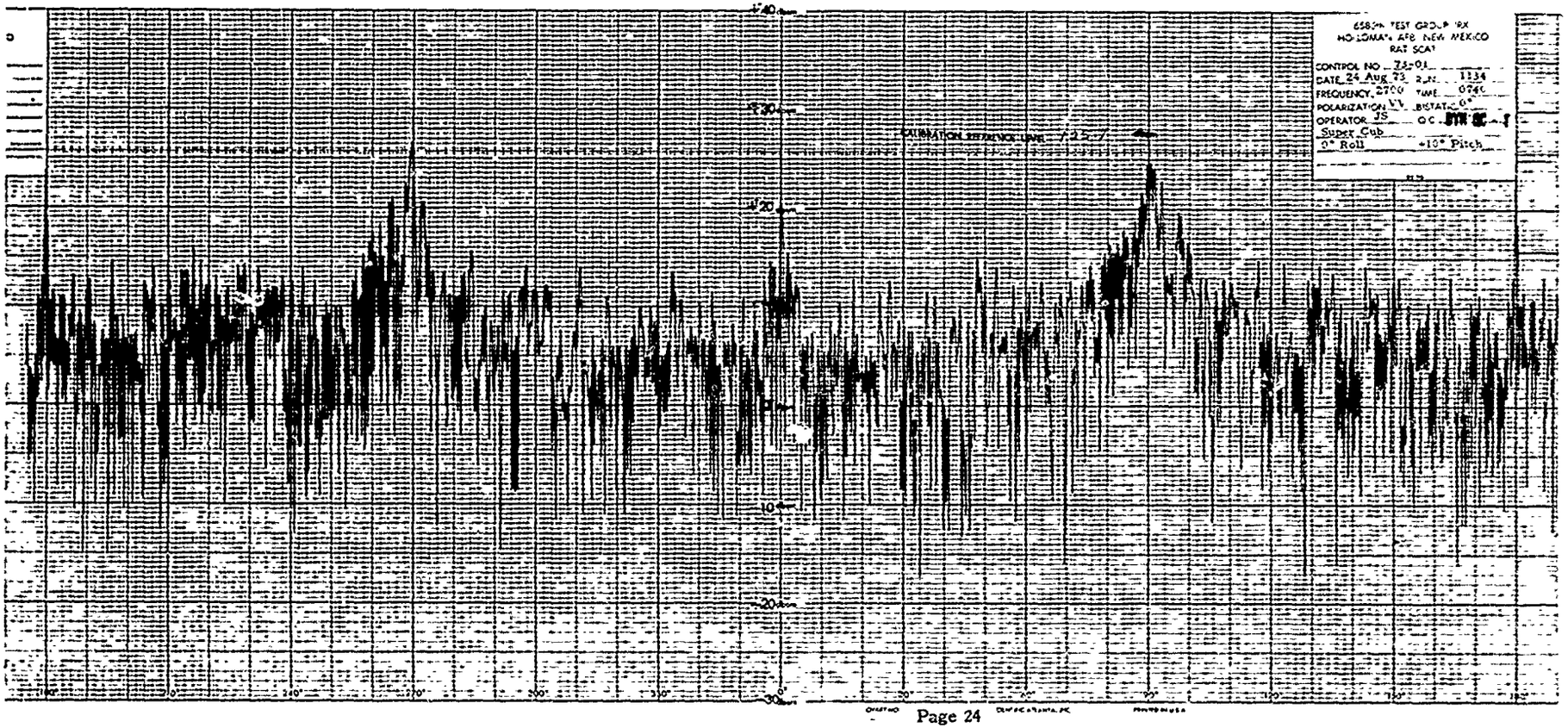
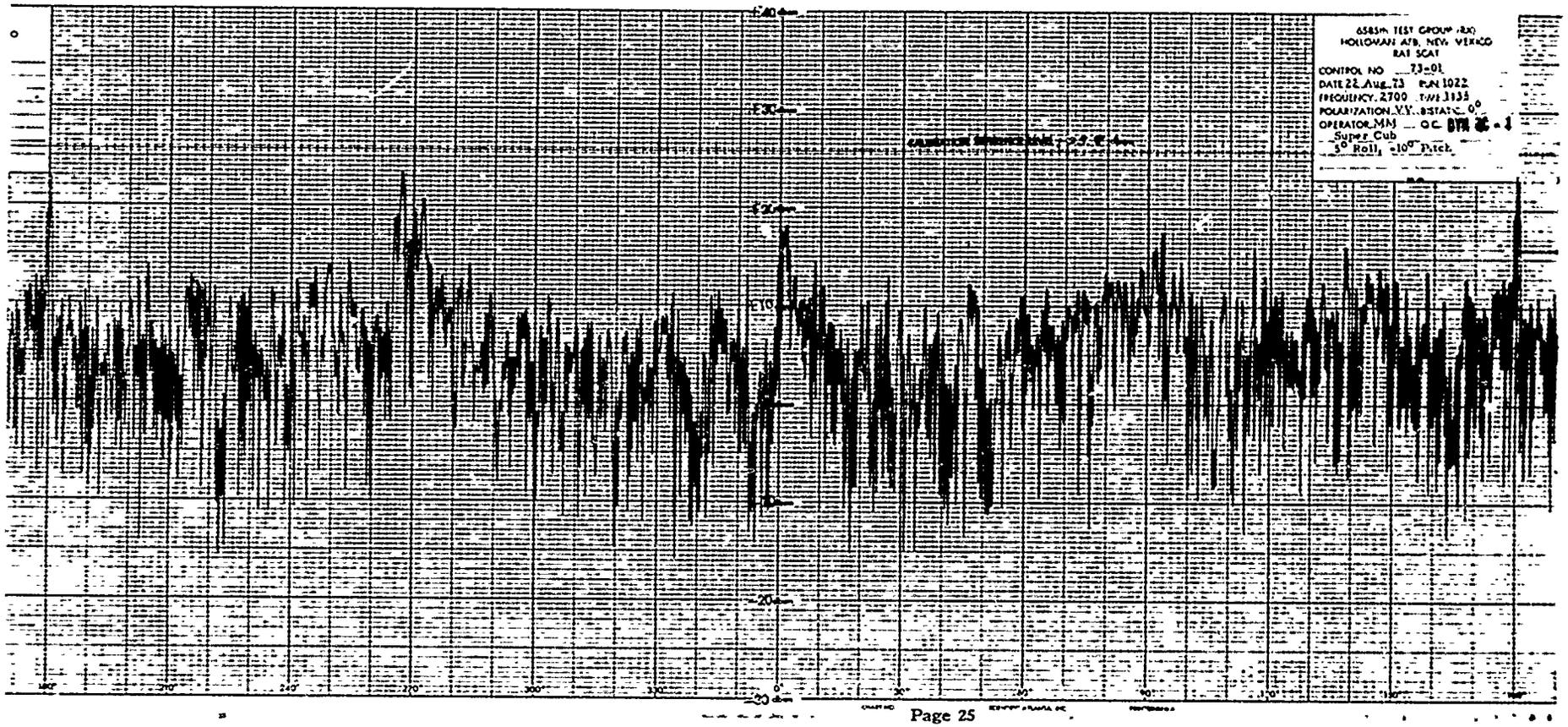
HOLLOMAN AFB, NEW MEXICO
PAT SCAT
CONTROL NO. 73-01
DATE 17 Aug 73 RUN 892
FREQUENCY 2700 TIME 0315
POLARIZATION V.V BISTATIC 6°
OPERATOR JS OC DYN QC -1
Super Cub
0° Roll 0° Pitch
Page 22


6585th TEST GROUP (RX)
HOLLOMAN AFB, NEW MEXICO
RAT SCAT
CONTROL NO. 73-01
DATE 23 Aug 73 RUN. 1111
FREQUENCY 2700 TIME 2133
POLARIZATION VV BISTATIC 0°
OPERATOR M.M. QC
Super Cub
0° Roll +5° Pitch
+40 dbsm
+30 dbsm
+20 dbsm
+10
0
-10 dbsm
-20 dbsm
-30 dbsm
0°
30°
60°
90°
120°
150°
180°


6586th TEST GROUP (PX
HOLLOMAN AFB, NEW MEXICO
RAT SCAT
CONTROL NO. 73-01
DATE 24 Aug 73 R.N. 1134
FREQUENCY 2700 TIME 0746
POLARIZATION VV BISTATIC 0°
OPERATOR JS QC
Super Cub
0° Roll +10° Pitch
CALIBRATION REFERENCE LINE /25/
+40
+30
+20
+10
-20
-30
0°
30°
90°
120°
150°
180°
210°
240°
270°
300°
330°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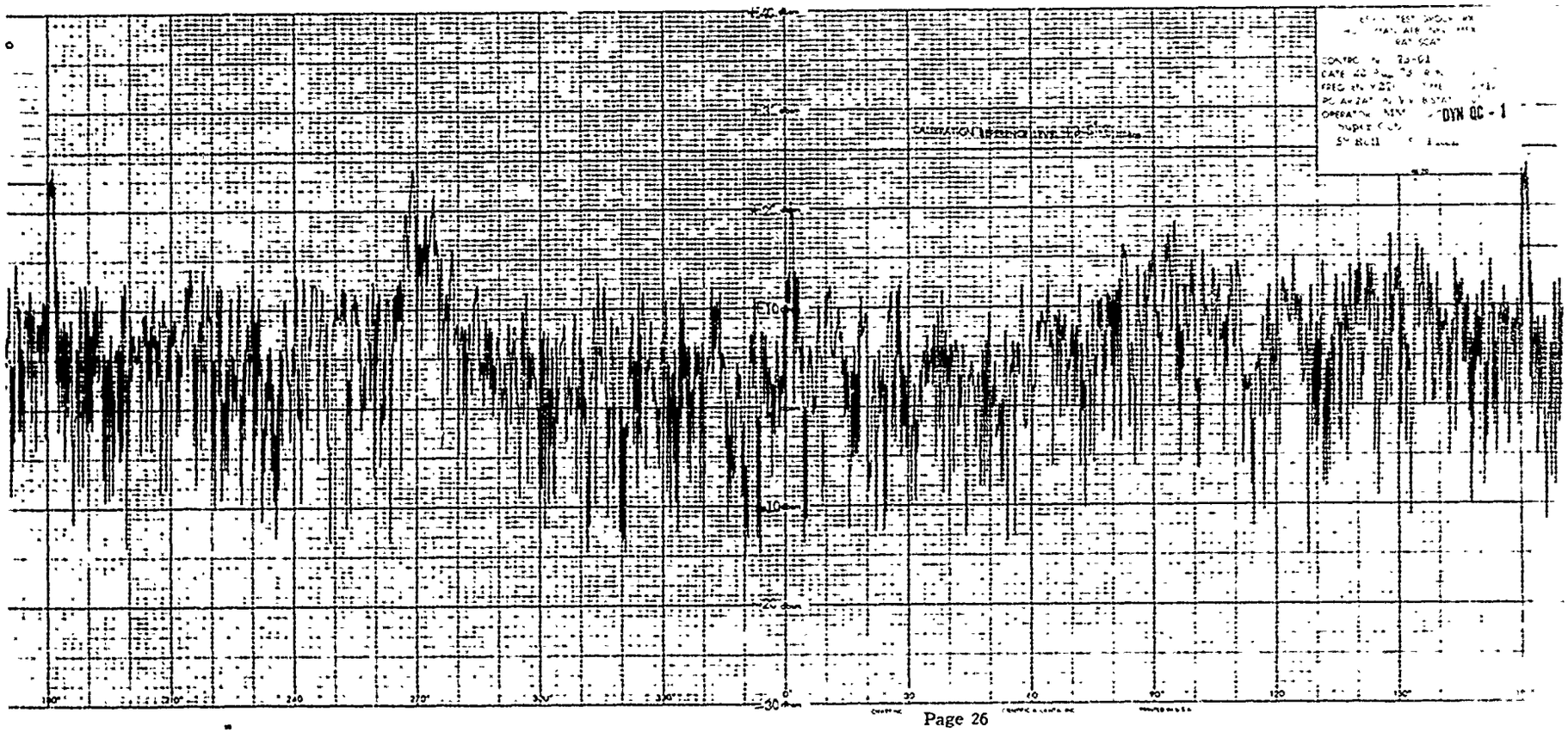
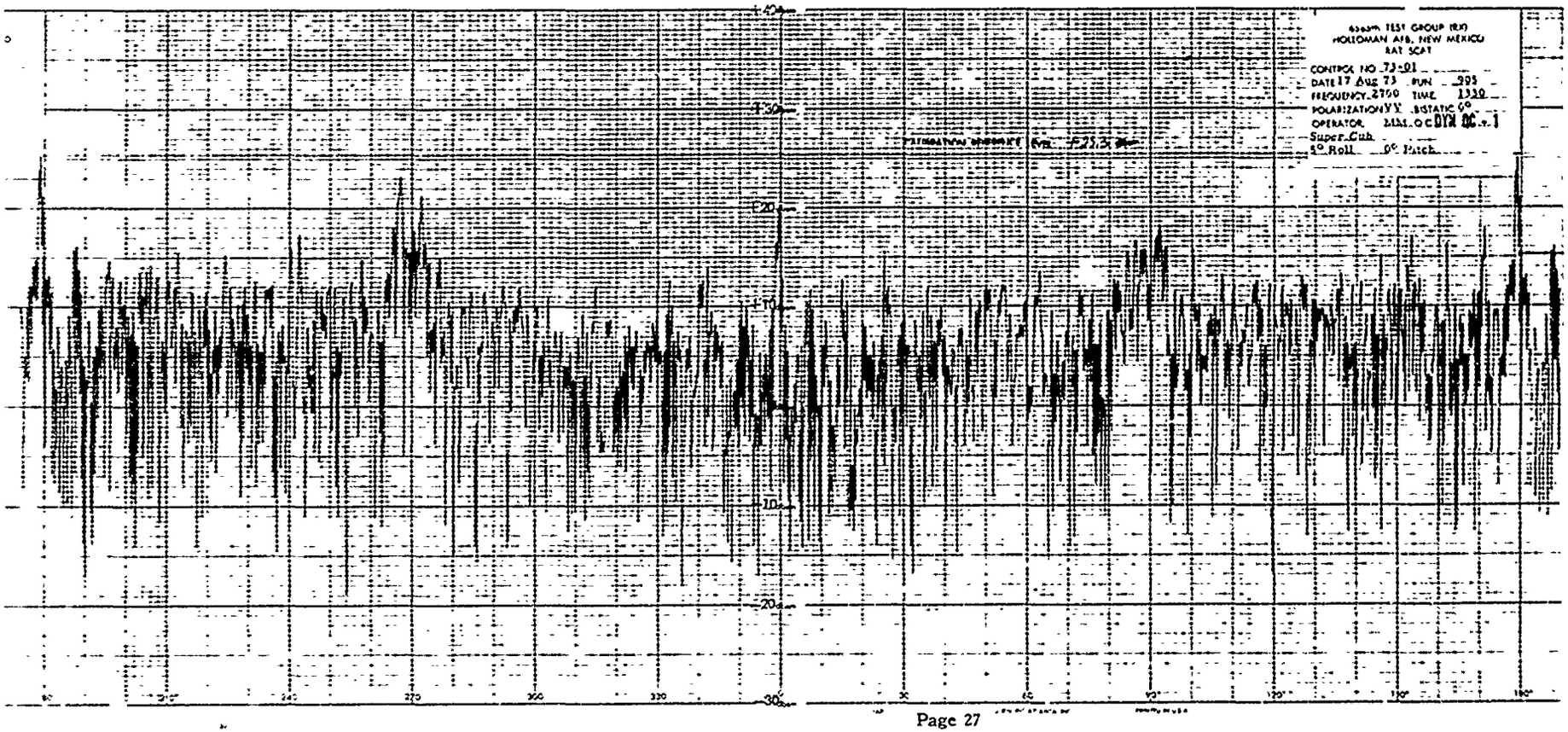
HOLLOMAN AFB, NEW MEXICO
RAT SCAT
CONTROL NO 73-01
DATE 22 Aug 73 RUN 1022
FREQUENCY 2700 TIME 1335
POLARIZATION V-V BISTATIC 0°
OPERATOR MM OC
Super Cub
3° Roll, -10° Pitch
+40 dBm
+30 dBm
+20 dBm
+10 dBm
0 dBm
-10 dBm
-20 dBm
-30 dBm
180°
210°
240°
270°
300°
330°
0°
30°
60°
90°
120°
150°
180°


DYN QC - 1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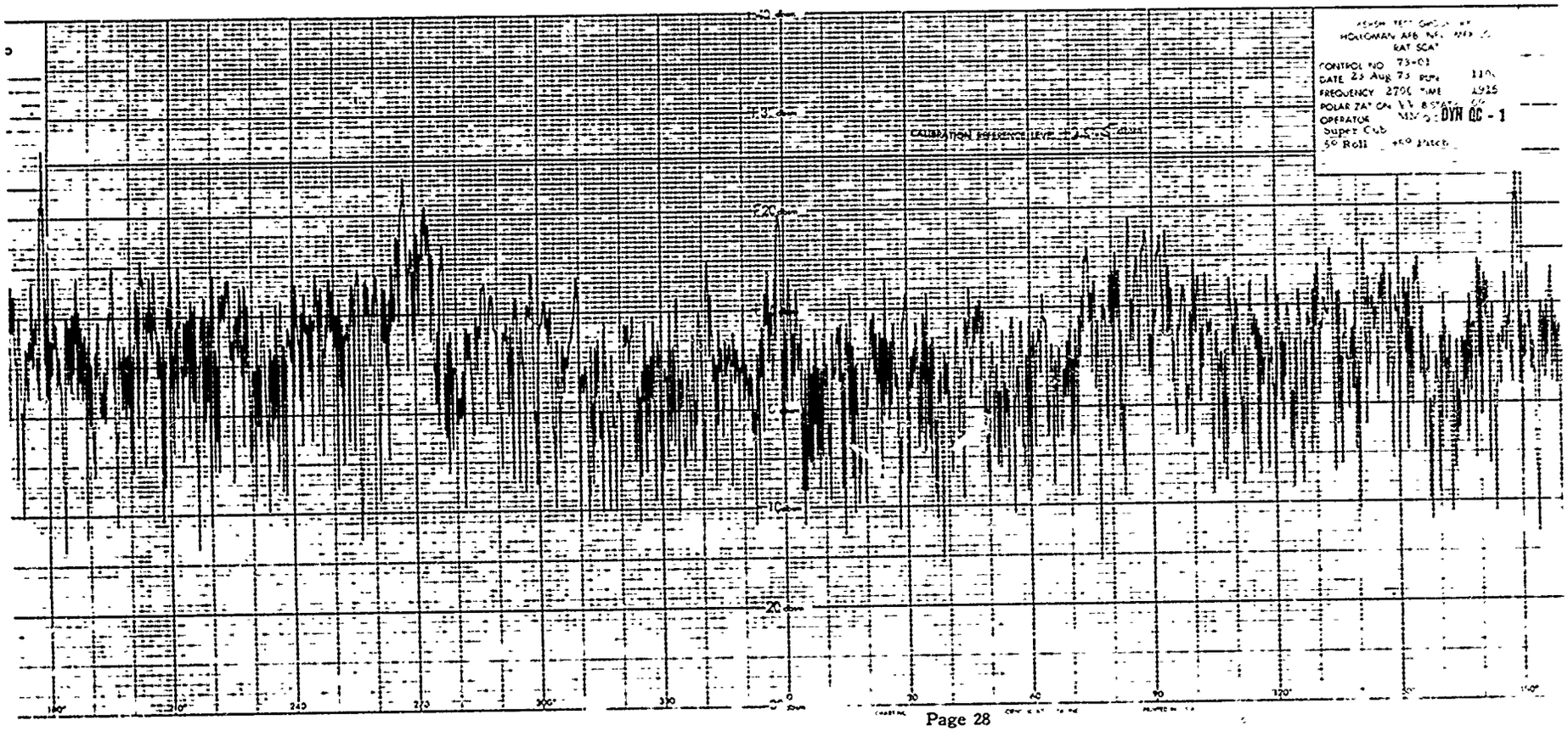
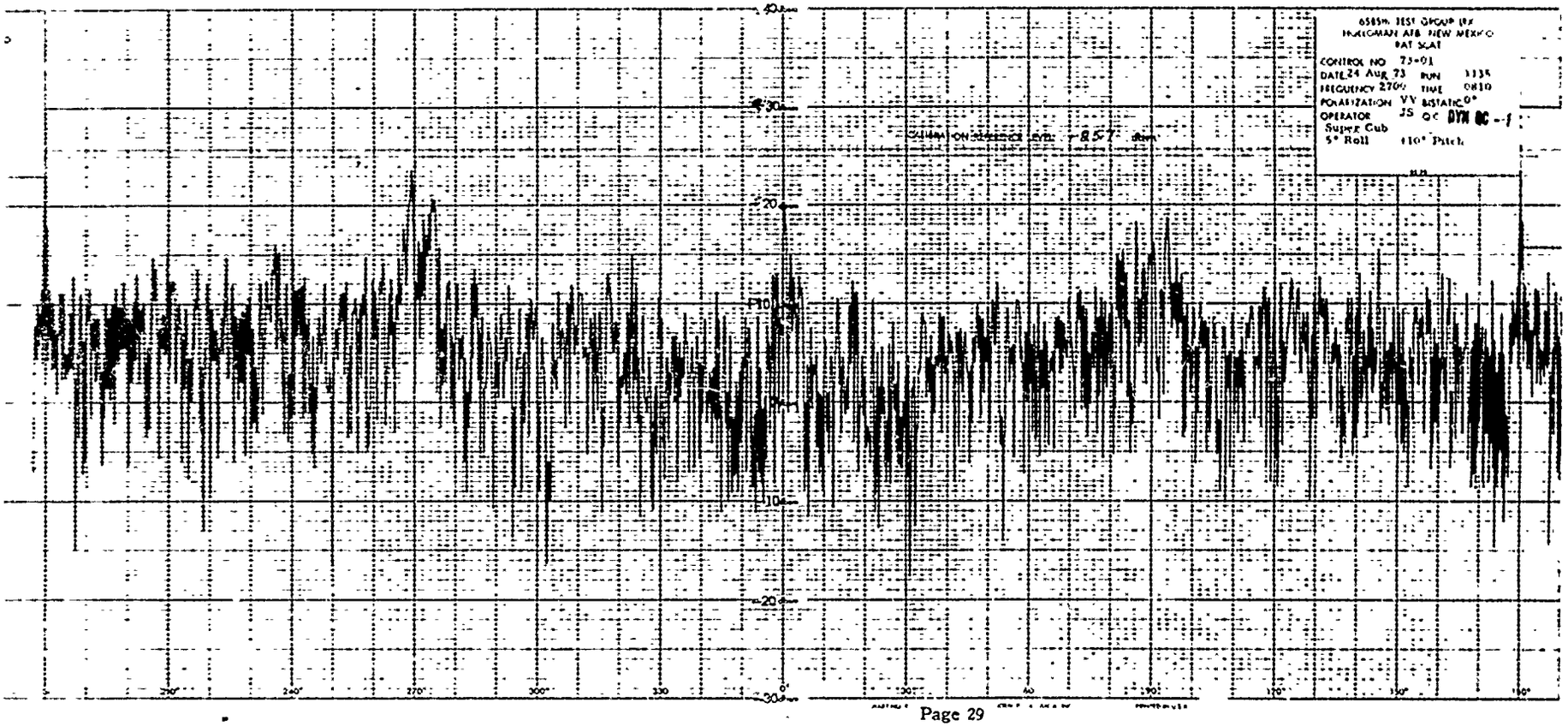
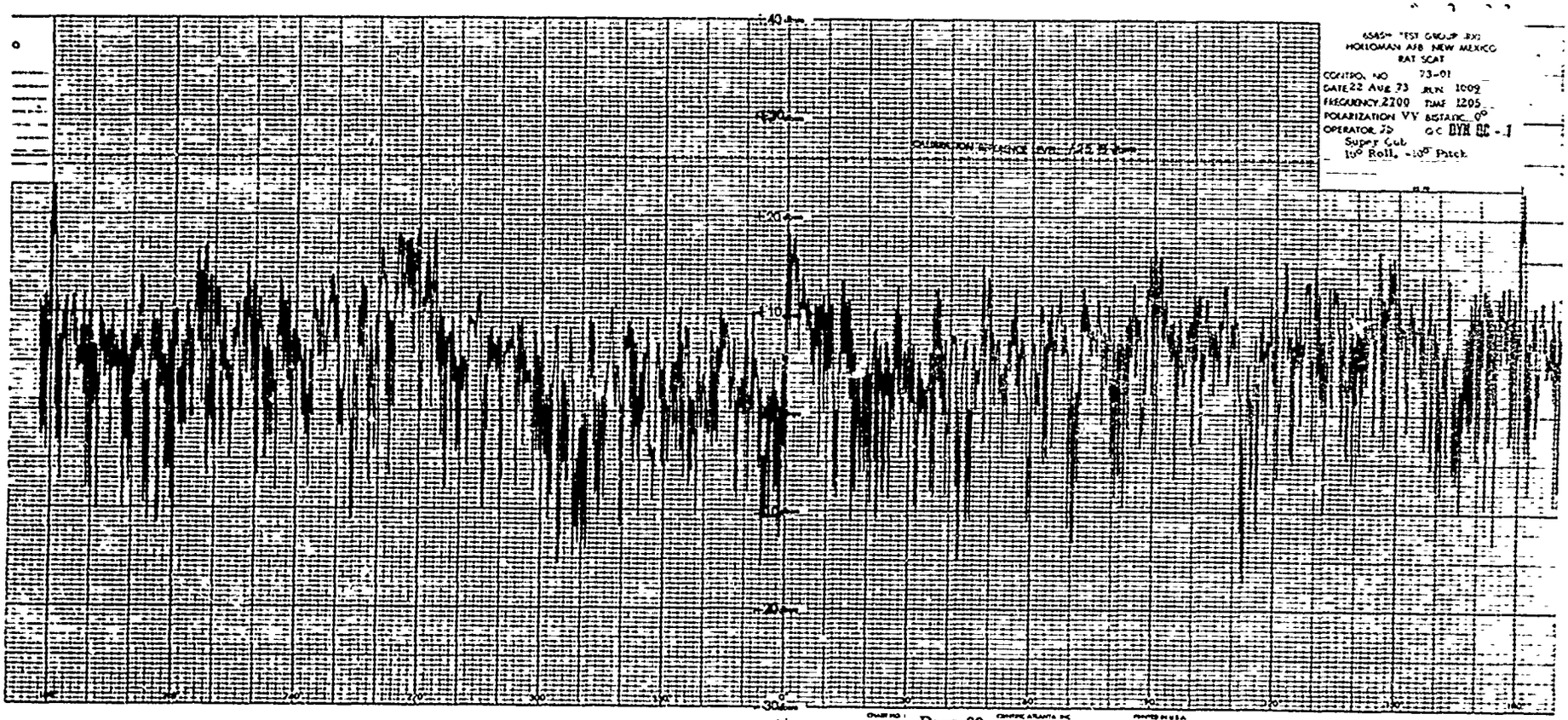
HOLLOMAN AFB, NEW MEXICO
RAT SCAT
CONTROL NO 73-01
DATE 17 Aug 73 RUN 395
FREQUENCY 2750 TIME 1330
POLARIZATION VV BISTATIC 0°
OPERATOR MAJ. O'C DTK DC-7
Super Cub
5° Roll 0° Pitch
+40
+30
+20
+10
-10
-20
-30
240
270
300
330
30
60
90°
120°
150°
180°


HOLLOMAN AFB NEW MEX
RAT SCAT
CONTROL NO 73-03
DATE 23 Aug 73
FREQUENCY 2700
OPERATOR
Super Cub
50 Roll
DYN QC - 1
10 dbsm
20 dbsm
0 dbsm
180°
210°
240
270
300°
330
0°
30
60
90
120°
150°


6585th TEST GROUP (R)
HOLLOMAN AFB NEW MEXICO
RAT SCAT
CONTROL NO 73-01
DATE 24 Aug 73
RUN 1135
FREQUENCY 2700
TIME 0810
POLARIZATION VV
BISTATIC 0°
OPERATOR JS
QC DYN QC -1
Super Cub
5° Roll
±10° Pitch
-30
-20
-10
0
-20
-30
240°
270°
300°
330
0°
30°
60
90°
120°
150°
180°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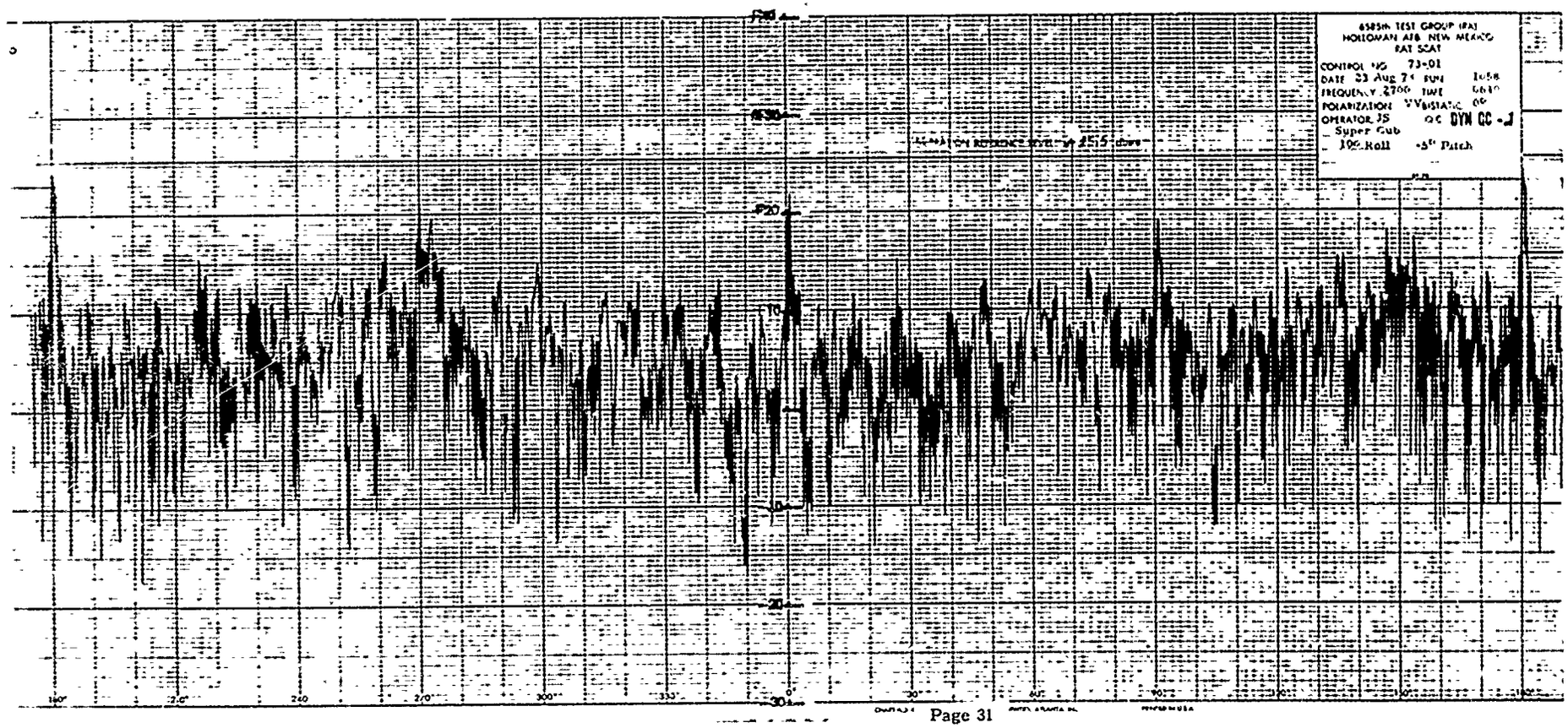
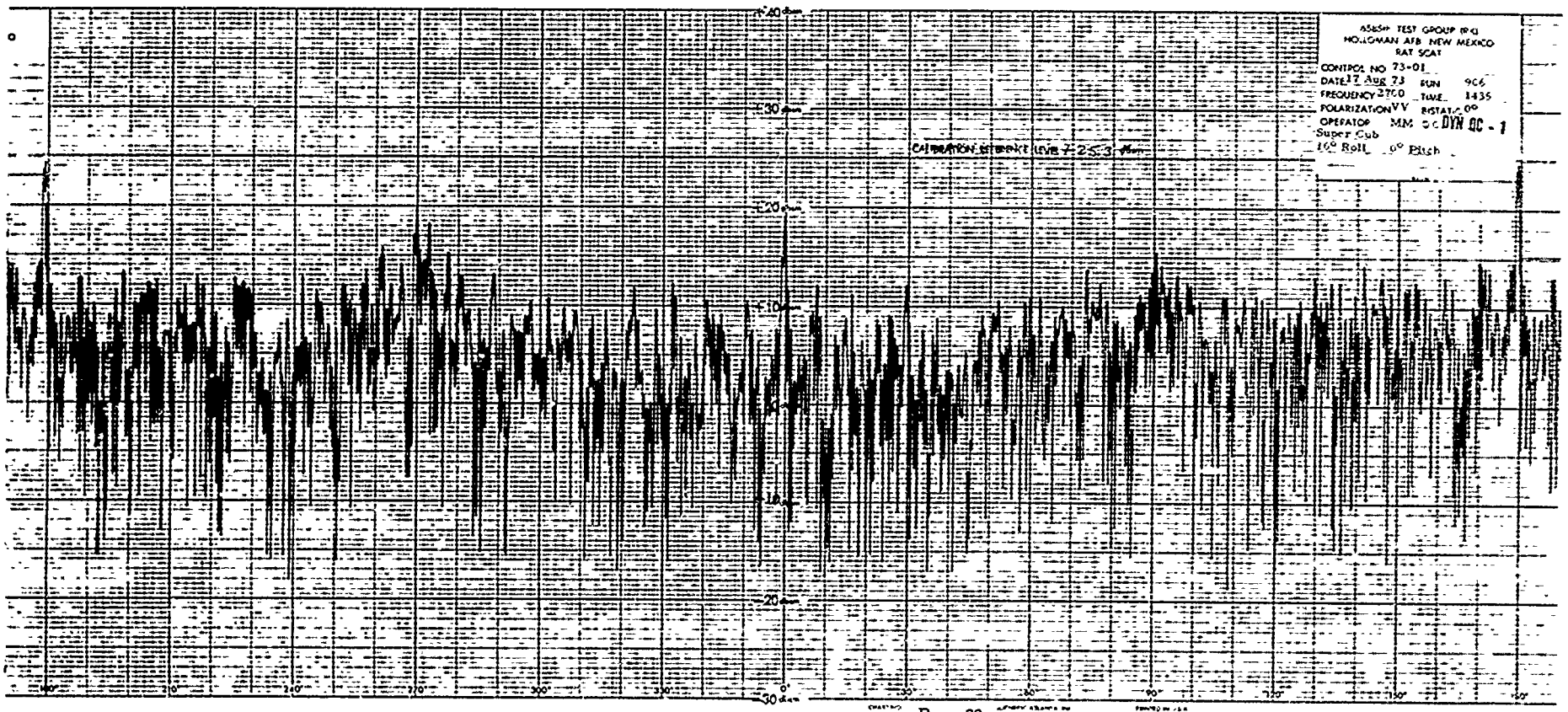
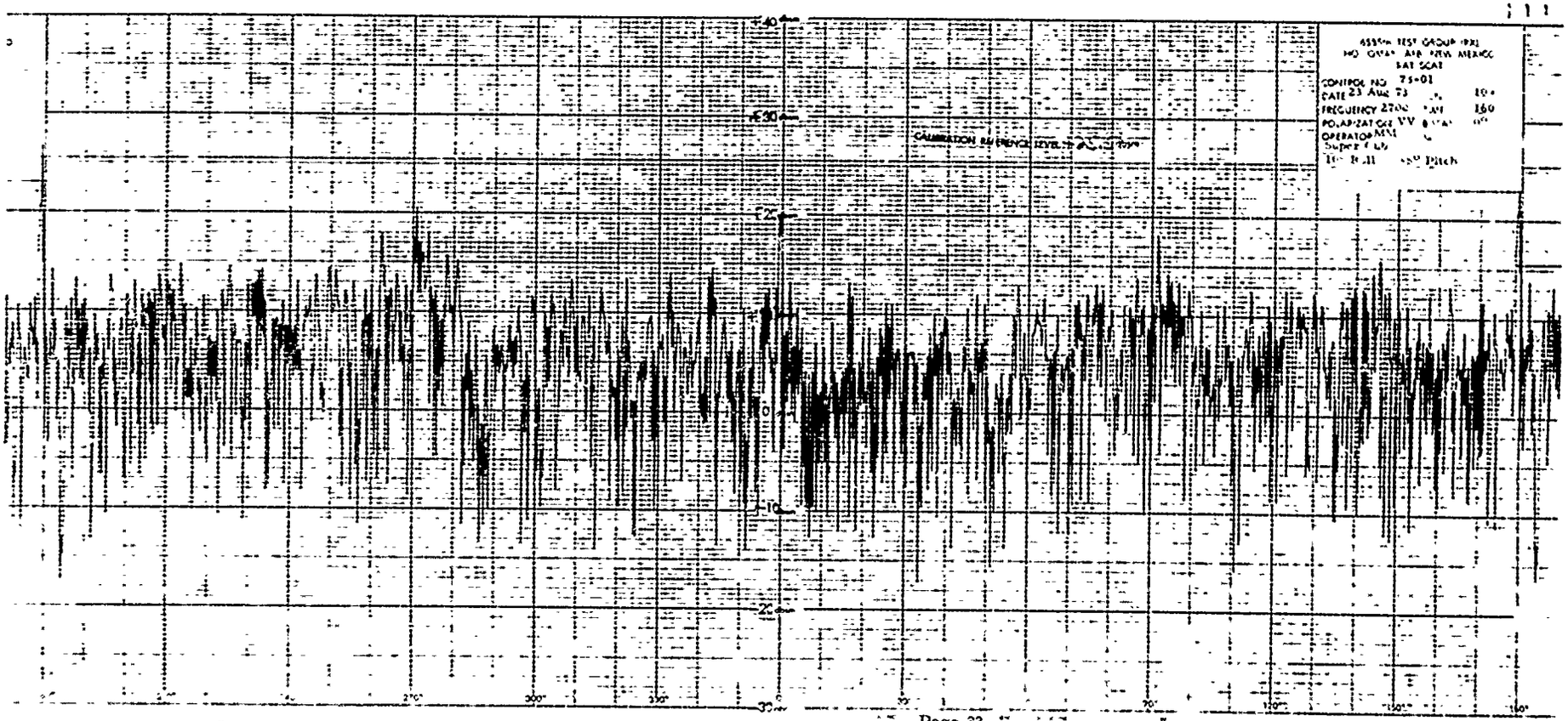
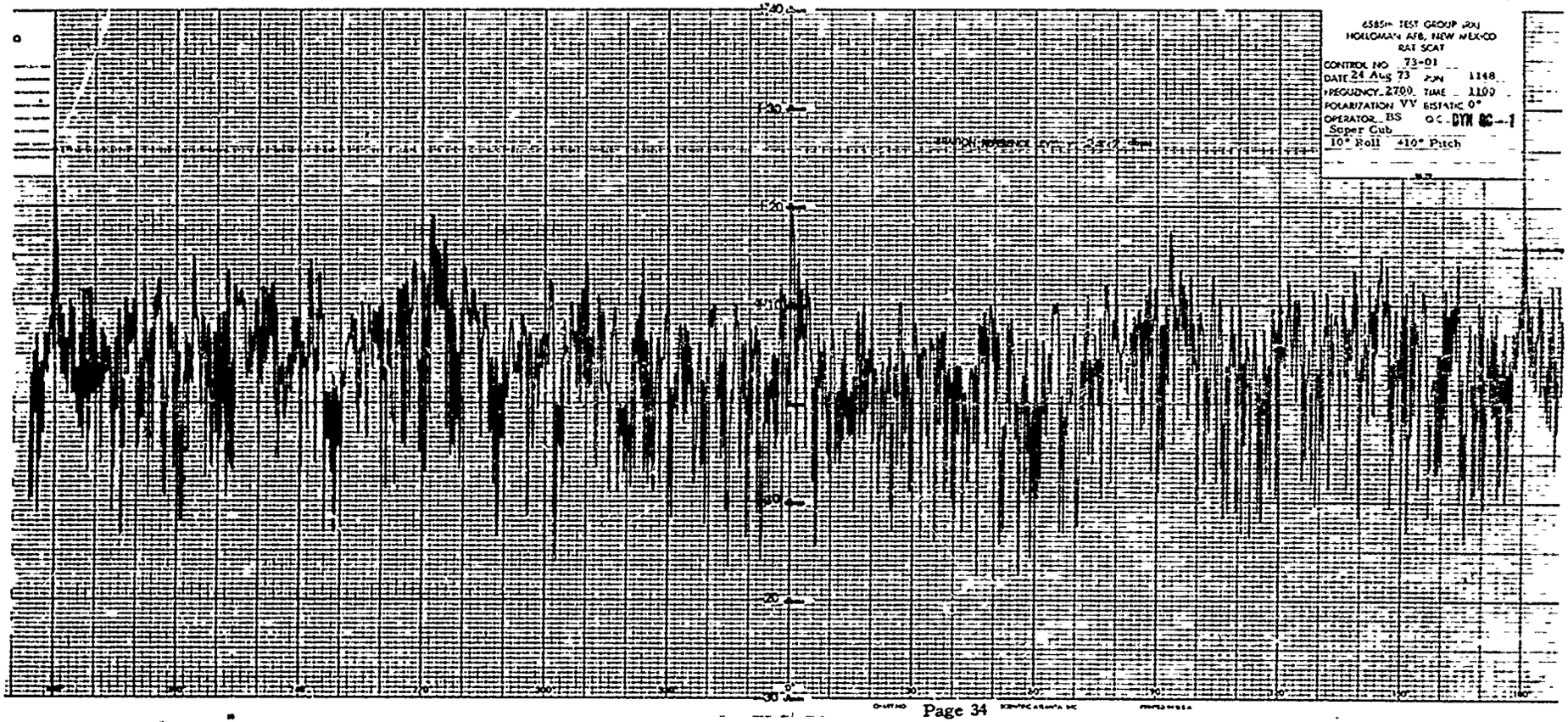
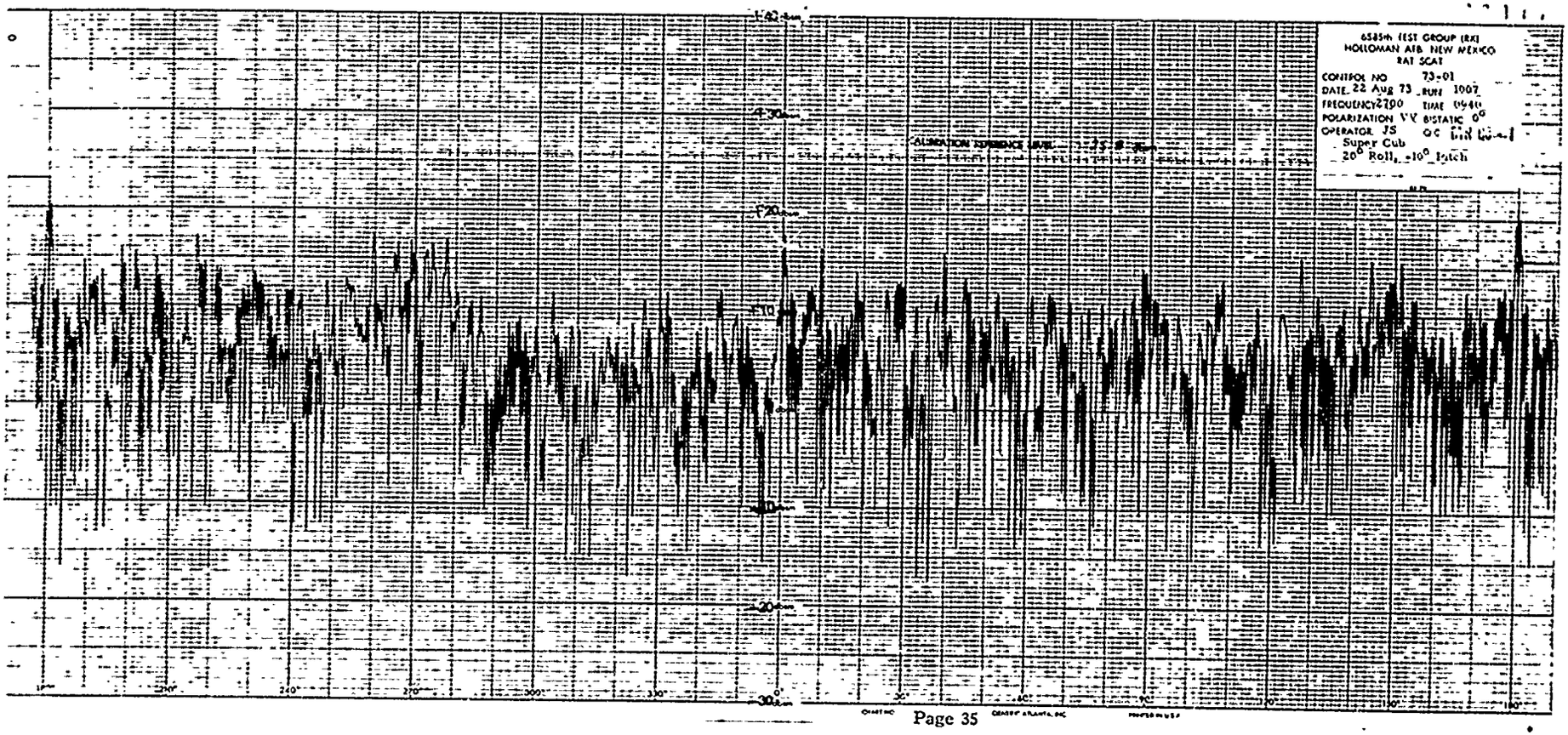
HOLLOMAN AFB NEW MEXICO
RAT SCAT
CONTROL NO 73-01
DATE 22 Aug 73 RUN 1009
FREQUENCY 2700 TIME 1205
POLARIZATION VV BISTATIC 0°
OPERATOR JD QC DYN QC - 1
Super Cub
10° Roll, -10° Pitch
40
30
20
10
0
-10
-20
-30


6585th TEST GROUP (PA)
HOLLOMAN AFB, NEW MEXICO
RAT SCAT
CONTROL NO 73-01
DATE 23 Aug 73 RUN 1058
FREQUENCY 2700 TIME 0610
POLARIZATION VV BISTATIC 00
OPERATOR JS QC DYN CC -1
Super Cub
100 Roll +5° Pitch
-20
-30
0°
30°
60°
90°
120°
150°
180°
210°
240
270°
300°
330°


ASESP TEST GROUP (RC)
HOLLOMAN AFB NEW MEXICO
RAT SCAT
CONTROL NO 73-01
DATE 17 Aug 73 RUN 906
FREQUENCY 2700 TIME 1435
POLARIZATION VV
OPERATOR MM
Super Cub
16° Roll 0° Pitch
DYN QC - 1
+40 dbsm
+30 dbsm
+20 dbsm
+10 dbsm
0 dbsm
-10 dbsm
-20 dbsm
-30 dbsm
0°
30°
60°
90°
120°
150°
180°


CONTROL NO 75-01
DATE 23 Aug 73
FREQUENCY 2700
OPERATOR MM
-40
-30
-20
-10
0
-30
30
70
110
150
270
300
330


6585th TEST GROUP (RX)
HOLLOMAN AFB, NEW MEXICO
RAT SCAT
CONTROL NO 73-01
DATE 24 Aug 73 RUN 1148
FREQUENCY 2700 TIME 2100
POLARIZATION VV BISTATIC 0°
OPERATOR BS OC DYN RC-1
Super Cub
10° Roll +10° Pitch
-40
-30
-20
-10
0
10
20
30
40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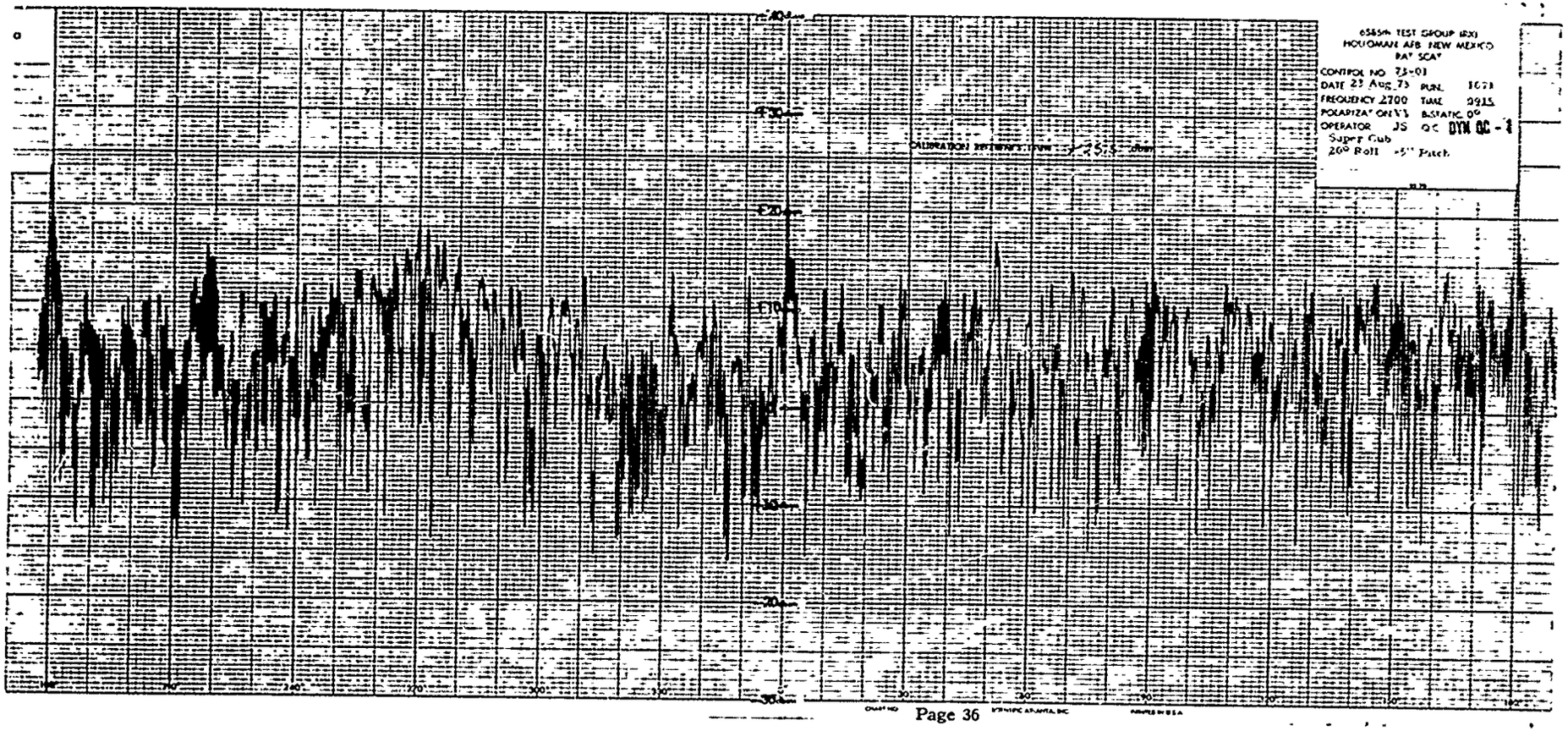
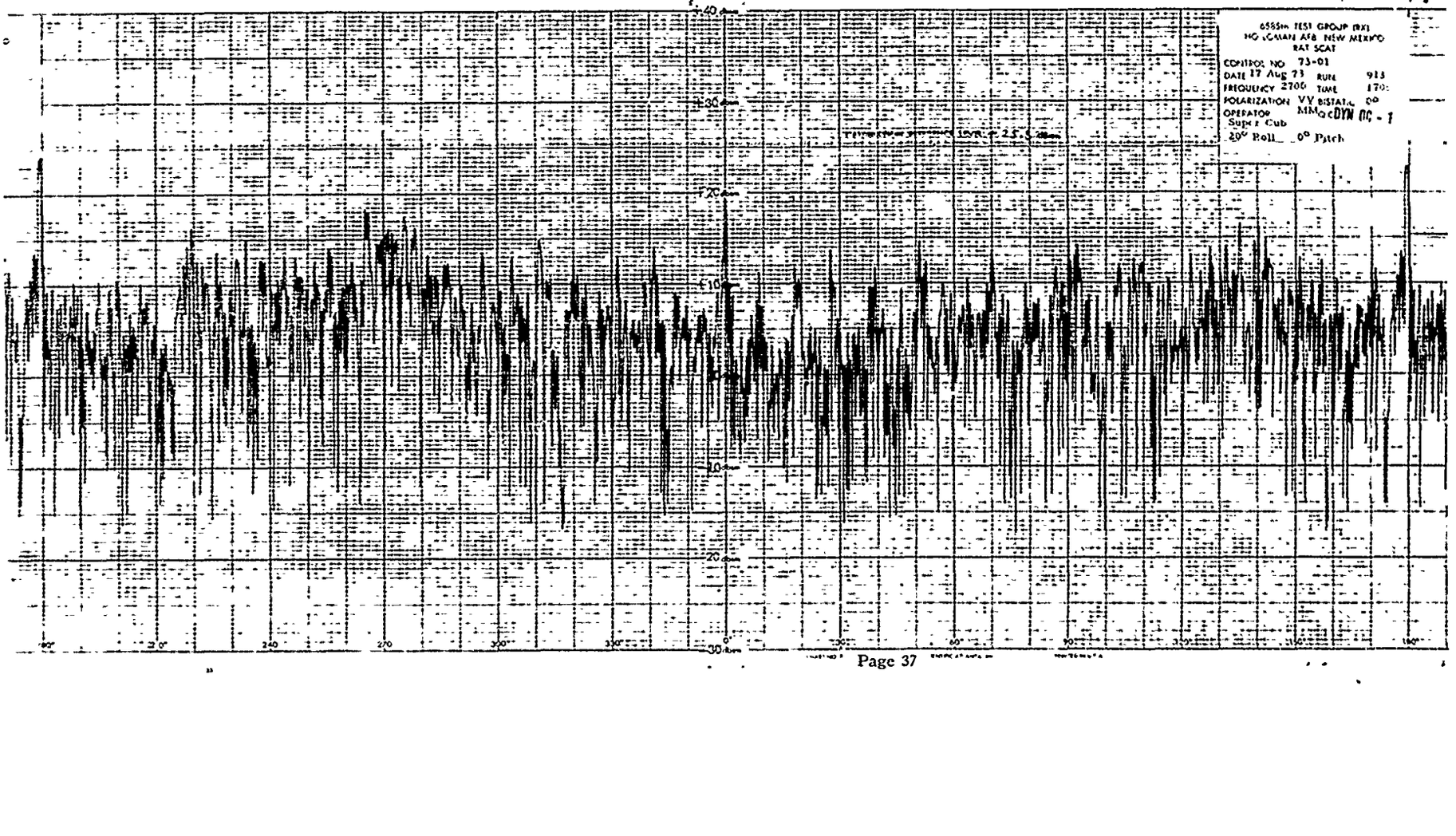
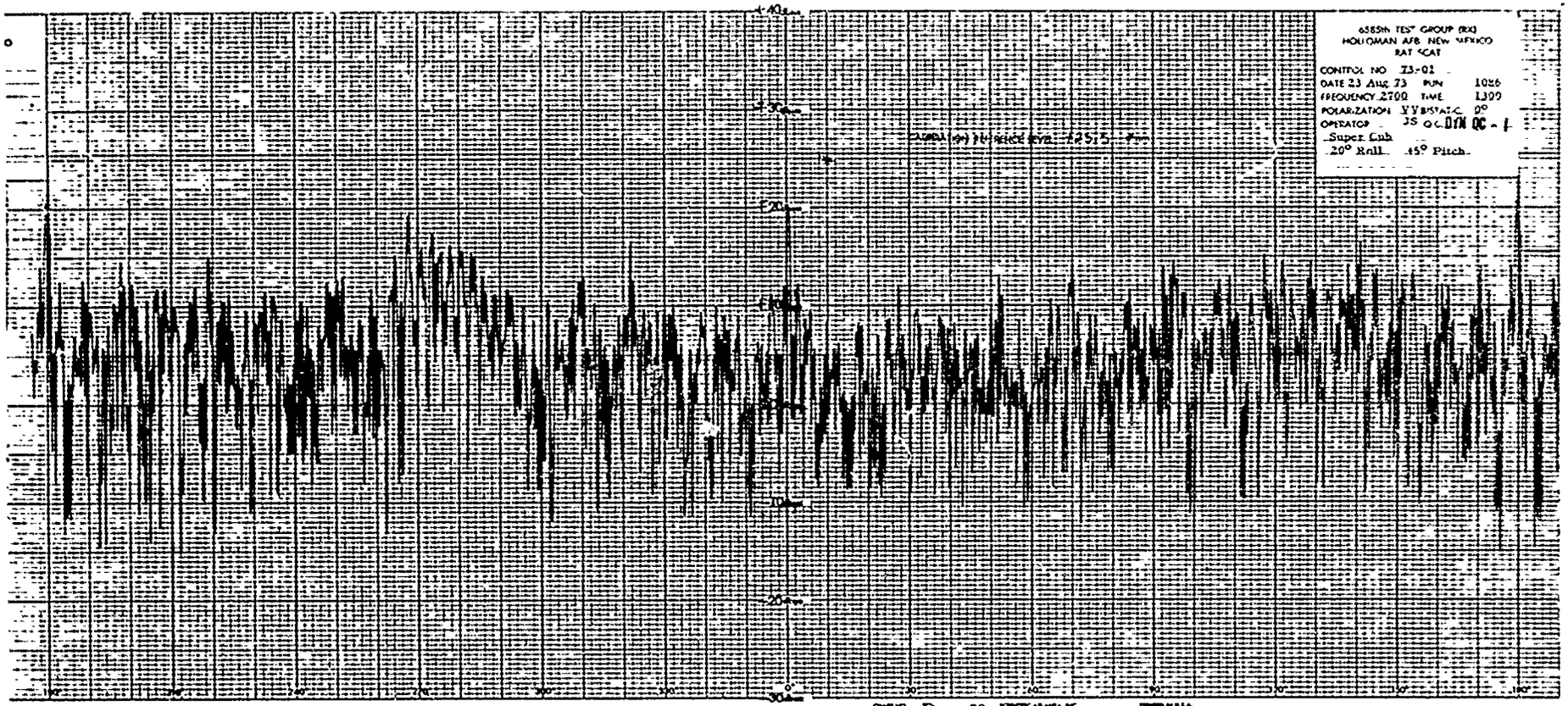
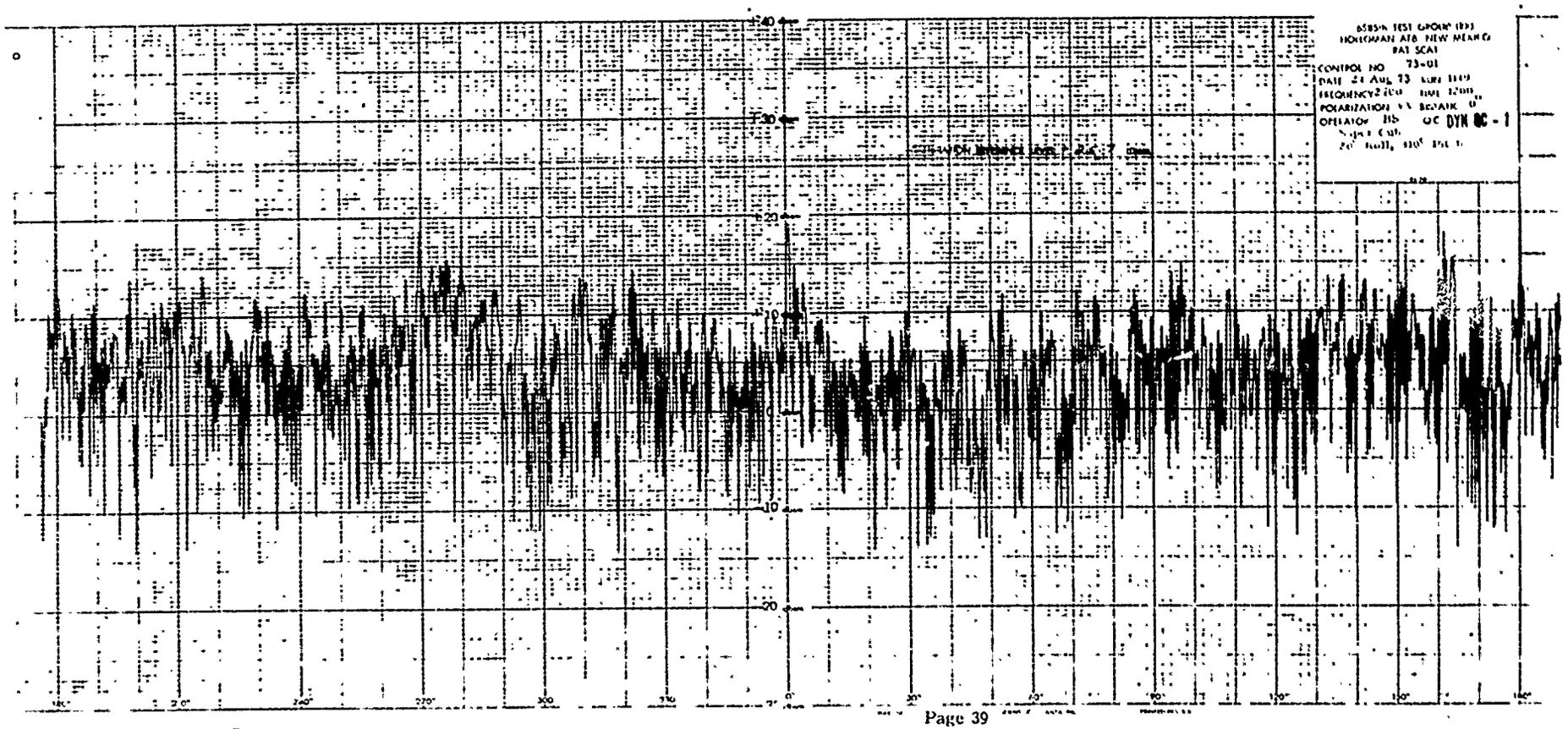
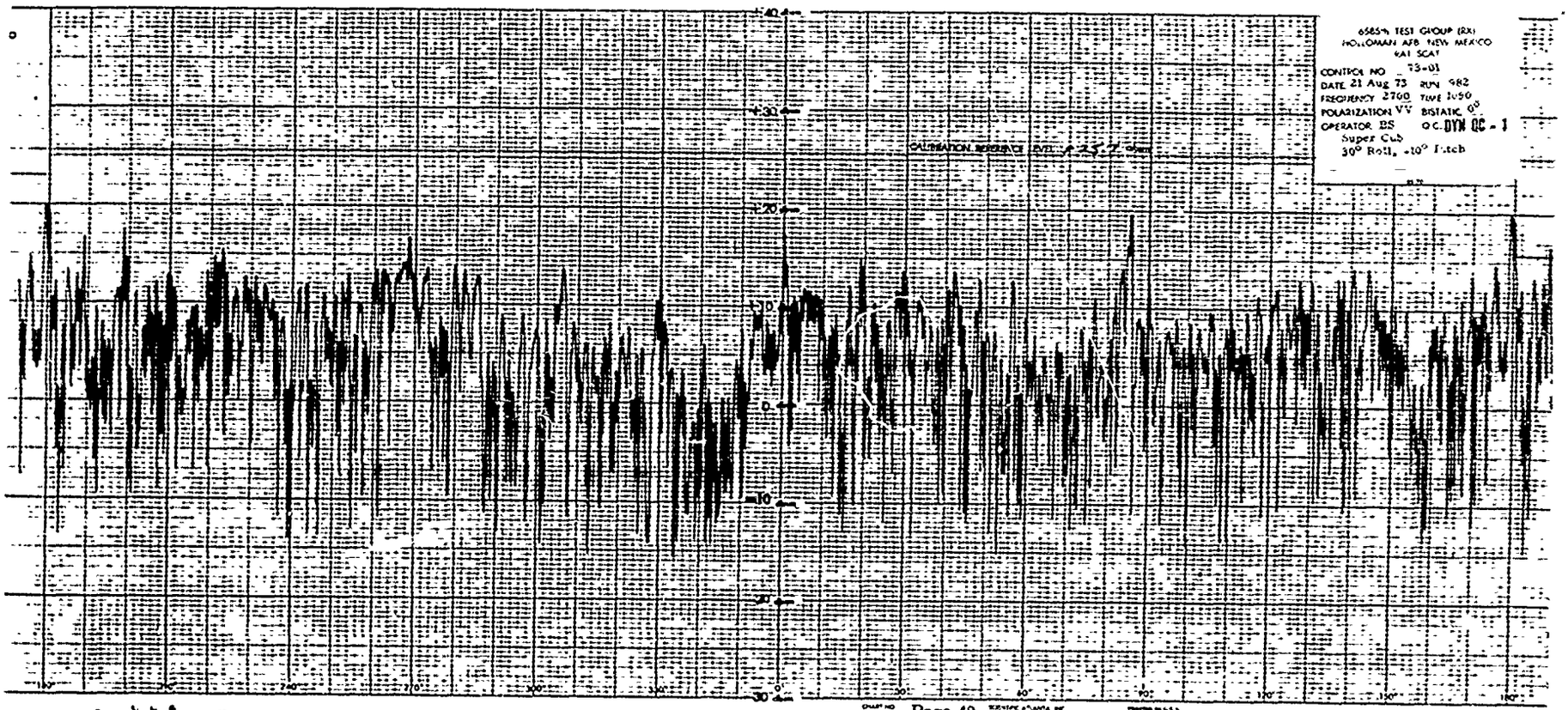
HOLLOMAN AFB NEW MEXICO
RAT SCAT
CONTROL NO 73-01
DATE 22 Aug 73 RUN 1007
FREQUENCY 2700 TIME 0940
POLARIZATION VV BISTATIC 0°
OPERATOR JS OC
Super Cub
20° Roll, ±10° Pitch
ELIMINATION REFERENCE LEVEL
+30
+20
+10
-20
-30
240°
270°
300°
330°
0°
30°
60°
90°
120°
150°
180°


6585th TEST GROUP (RX)
HOLLOMAN AFB NEW MEXICO
RAT SCAT
CONTROL NO 73-01
DATE 23 Aug 73
FREQUENCY 2700
POLARIZATION VV
OPERATOR JS
Super Cub
209 Roll +5° Patch
DYN QC - 1


6585th TEST GROUP (RX)
HOLLOMAN AFB NEW MEXICO
RAT SCAT
CONTROL NO 73-01
DATE 17 Aug 73 RUN 915
FREQUENCY 2700 TIME 170
POLARIZATION VV BISTATIC 0°
OPERATOR MMQ CDYN OC - 1
Super Cub
20° Roll 0° Pitch
+40 dBm
+30 dBm
+20 dBm
+10 dBm
0 dBm
-10 dBm
-20 dBm
-30 dBm
240
270
300
330
0°
30
60
90
120
150
180


6585th TEST GROUP (RX)
HOLLOMAN AFB NEW MEXICO
RAT SCAT
CONTROL NO Z3-01
DATE 23 Aug 73 RUN 1026
FREQUENCY 2700 TIME 1309
POLARIZATION VV BISTATIC 0°
OPERATOR JS O.C. DFN QC - J
Super Cub
20° Roll 45° Pitch
+10dBm
+5dBm
0dBm
-5dBm
-10dBm
-20dBm
-30dBm
0°
30°
60°
90°
120°
150°
180°


40
30
25
10
0
-10
-20
6585th TEST GROUP (DT)
HOLLOMAN AFB NEW MEXICO
PAT SCAT
CONTROL NO 73-01
DATE 24 Aug 73
FREQUENCY
POLARIZATION
OPERATOR BS
DYN RC - 1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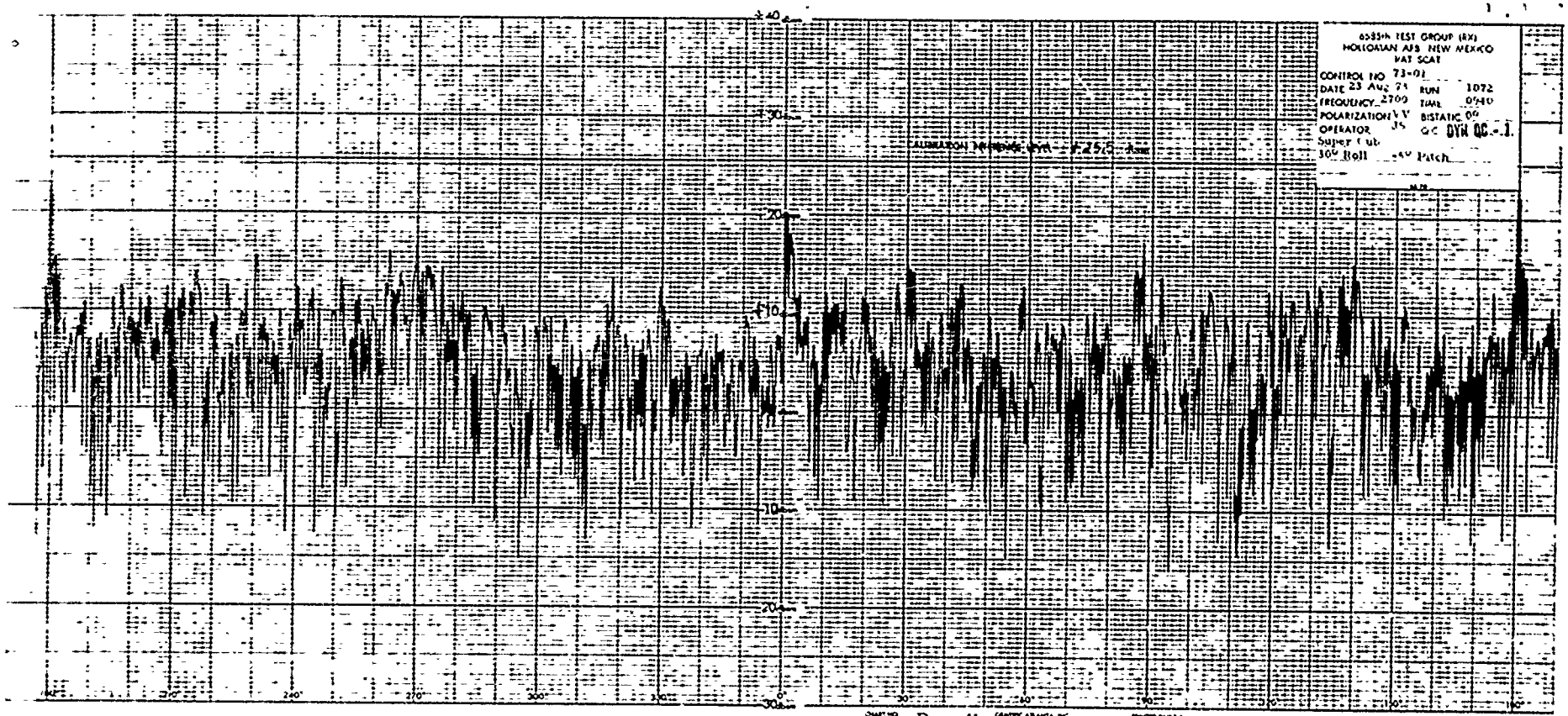
HOLLOMAN AFB NEW MEXICO
KAT SCAT
CONTROL NO 73-01
DATE 21 Aug 73 RUN 982
FREQUENCY 2700 TIME 1450
POLARIZATION VV BISTATIC 0°
OPERATOR BS OC DYN QC - 1
Super Cub
30° Roll, -10° Pitch
+40
+30
+20
+10
0
-10
-20
-30
0°
30°
60°
90°
120°
150°
180°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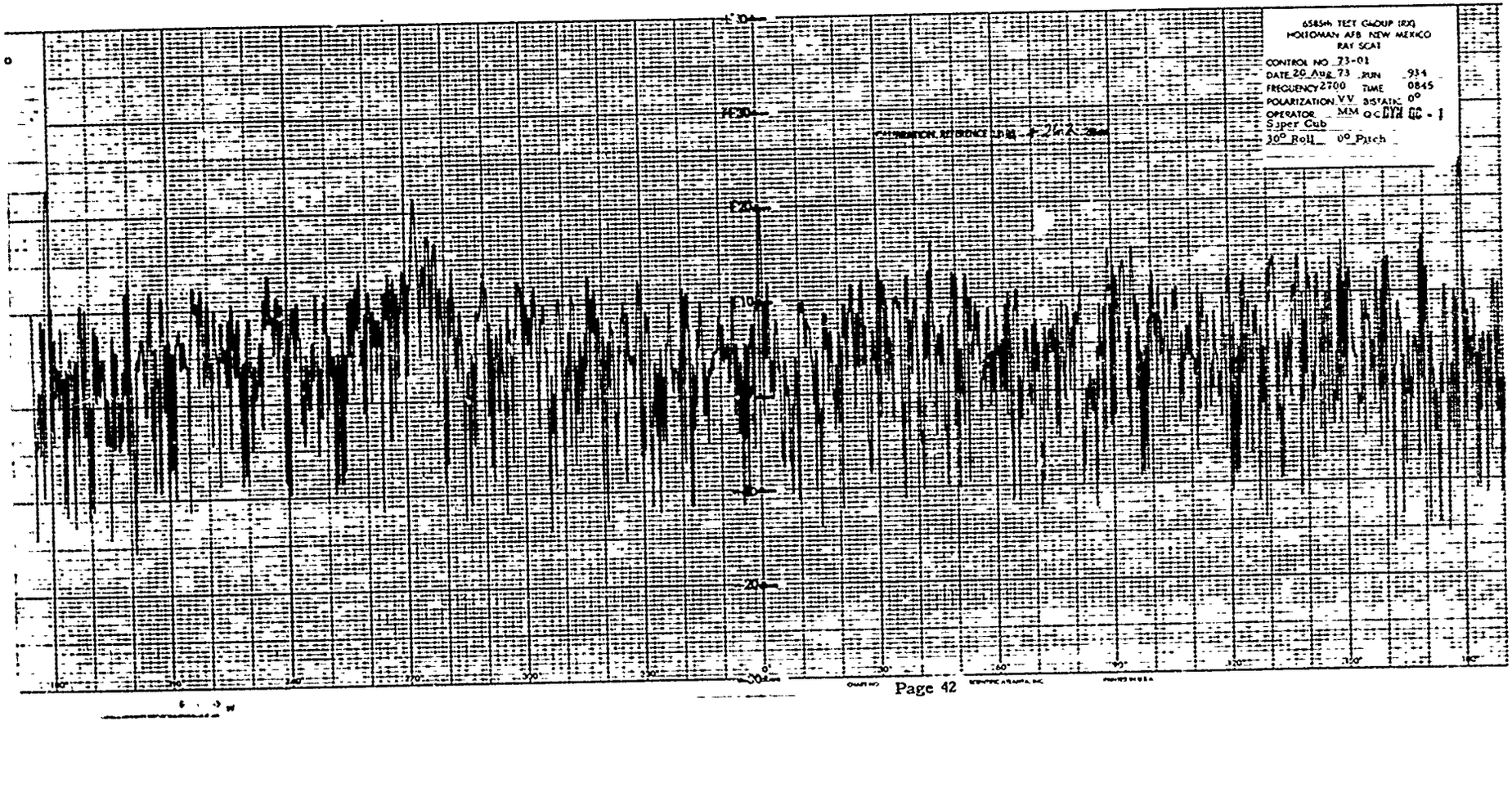
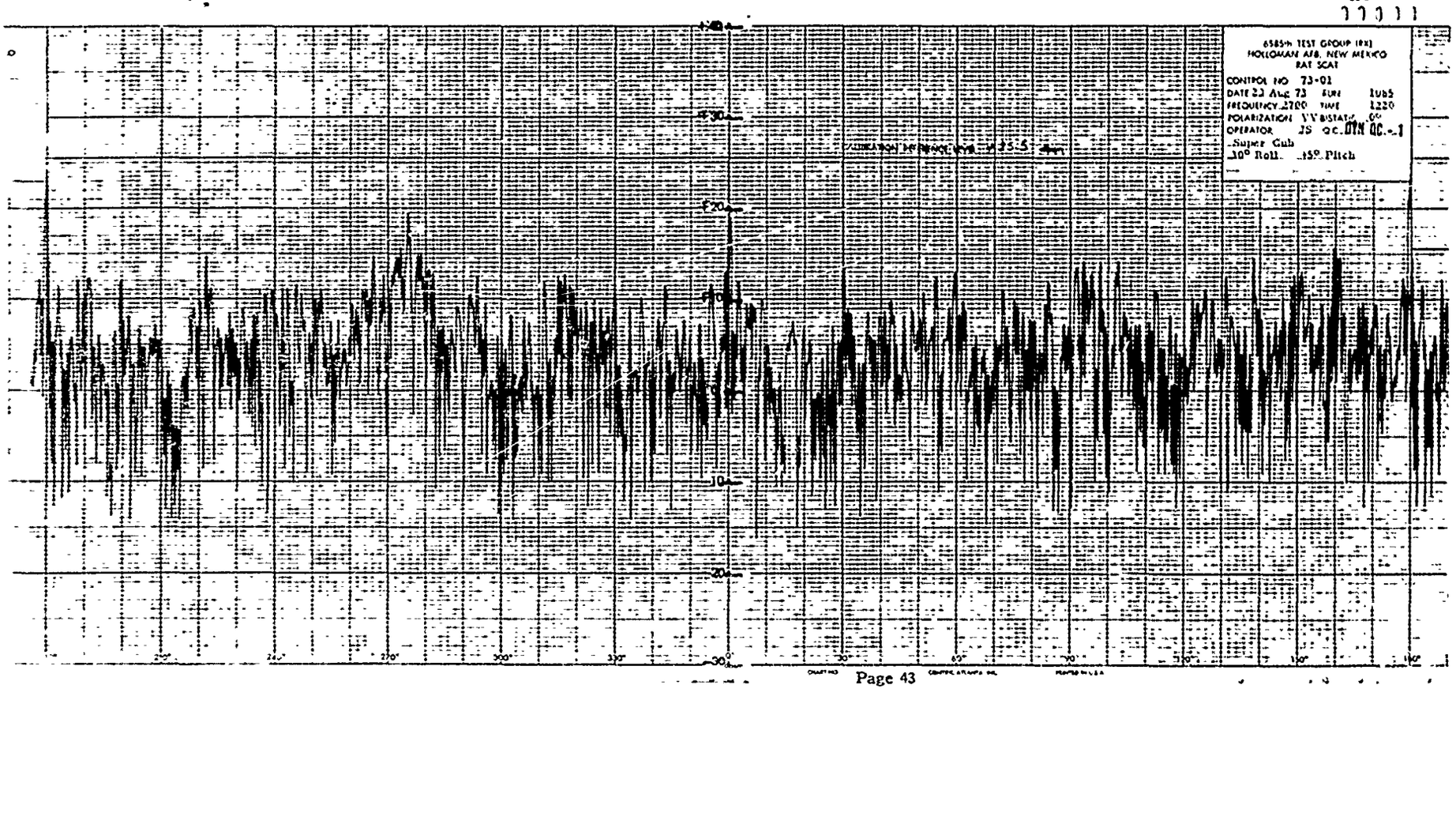
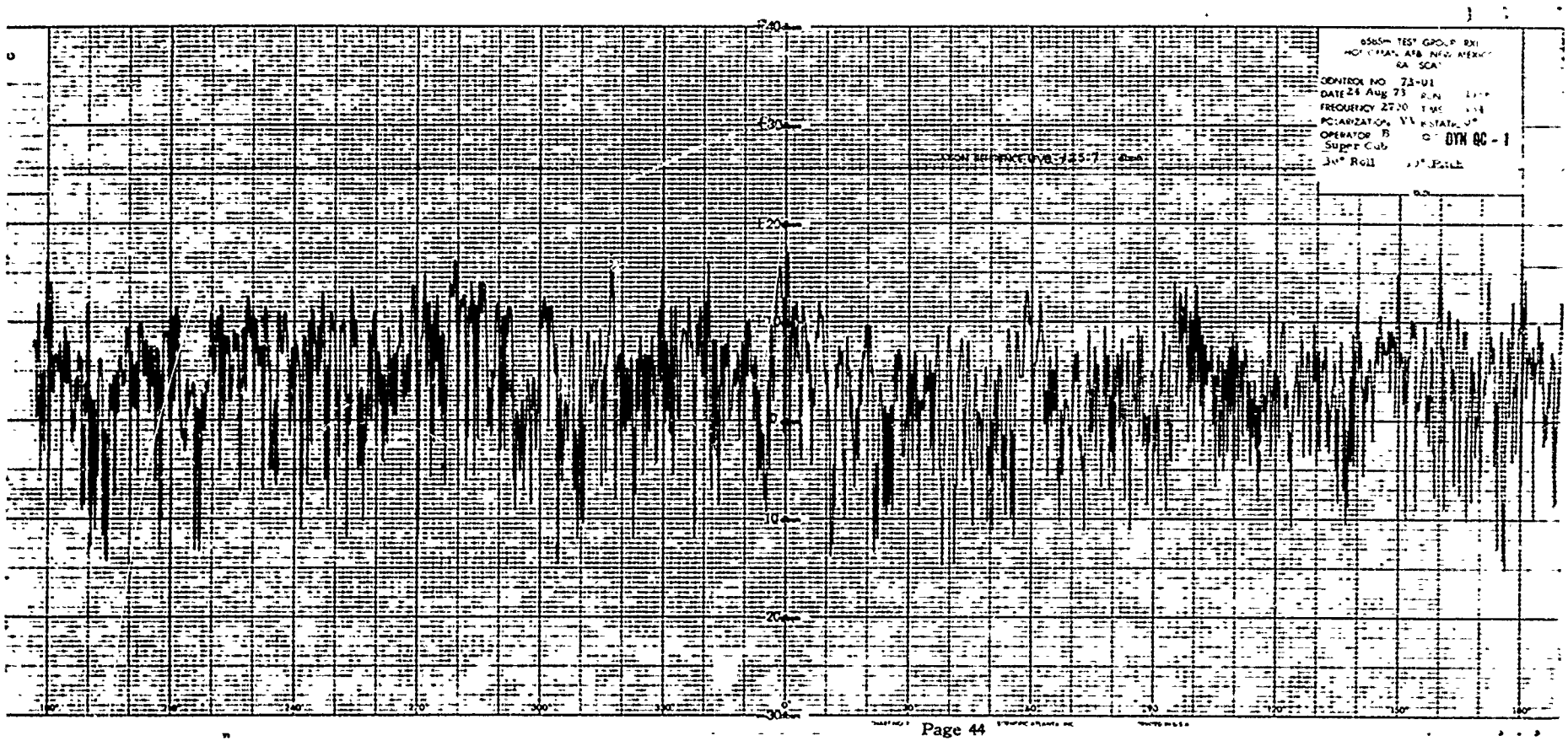
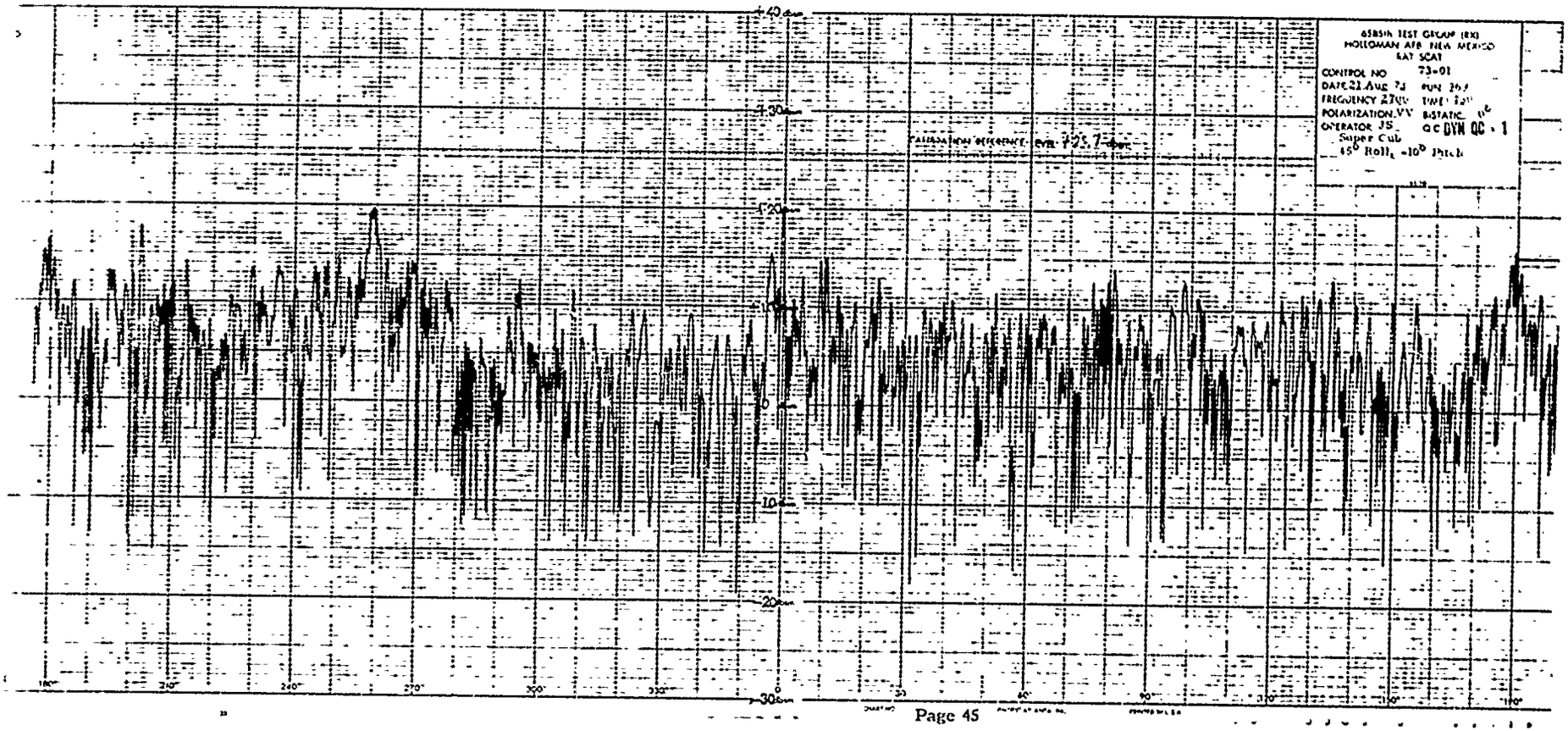
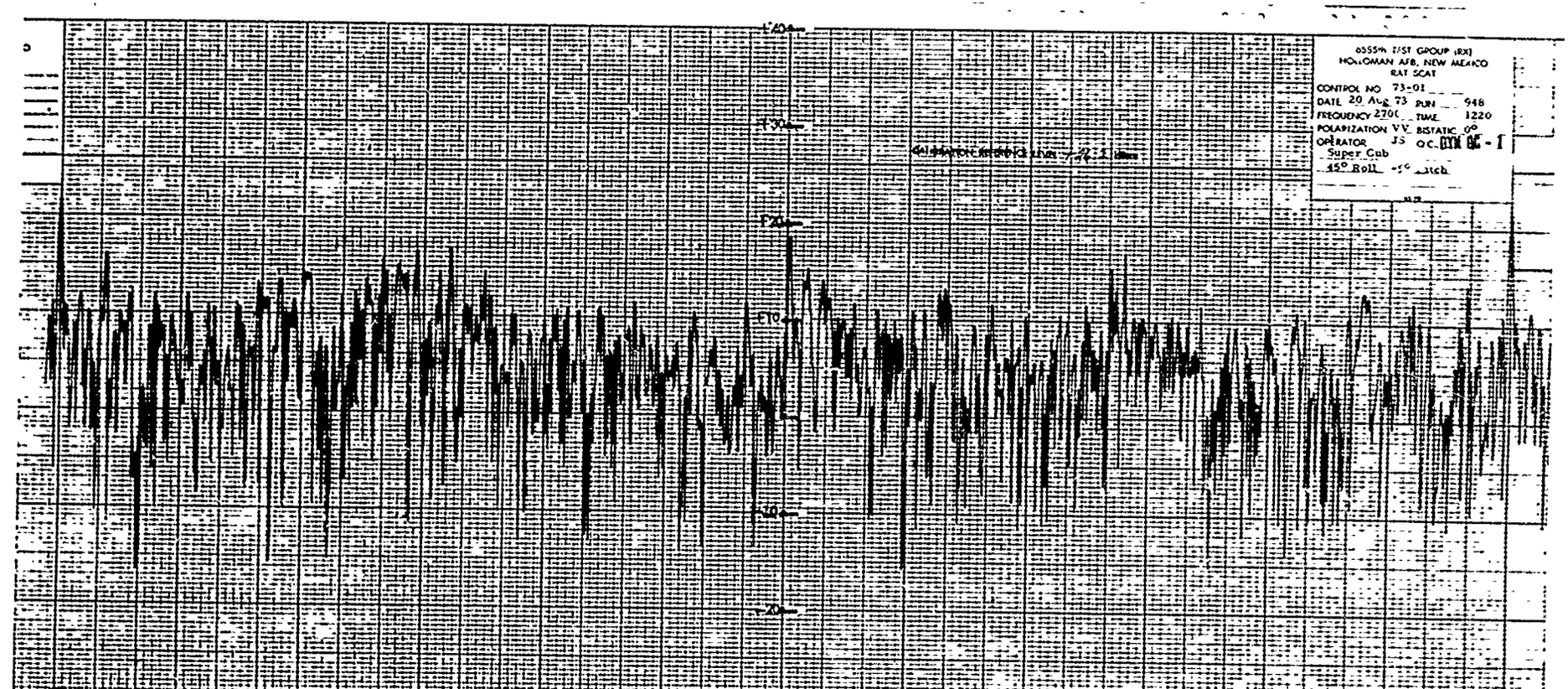
HOLLOMAN AFB NEW MEXICO
PAT SCAT
CONTROL NO 73-01
DATE 23 Aug 73 RUN 1072
FREQUENCY 2709 TIME 0940
POLARIZATION V V BISTATIC 00
OPERATOR JS QC DYN QC-1
Super Cub
30° Roll 45° Pitch
+40
+30
+20
+10
0
-10
-20
-30
240°
270°
300°
330°
0°
30°
60°
90°
120°
150°
180°

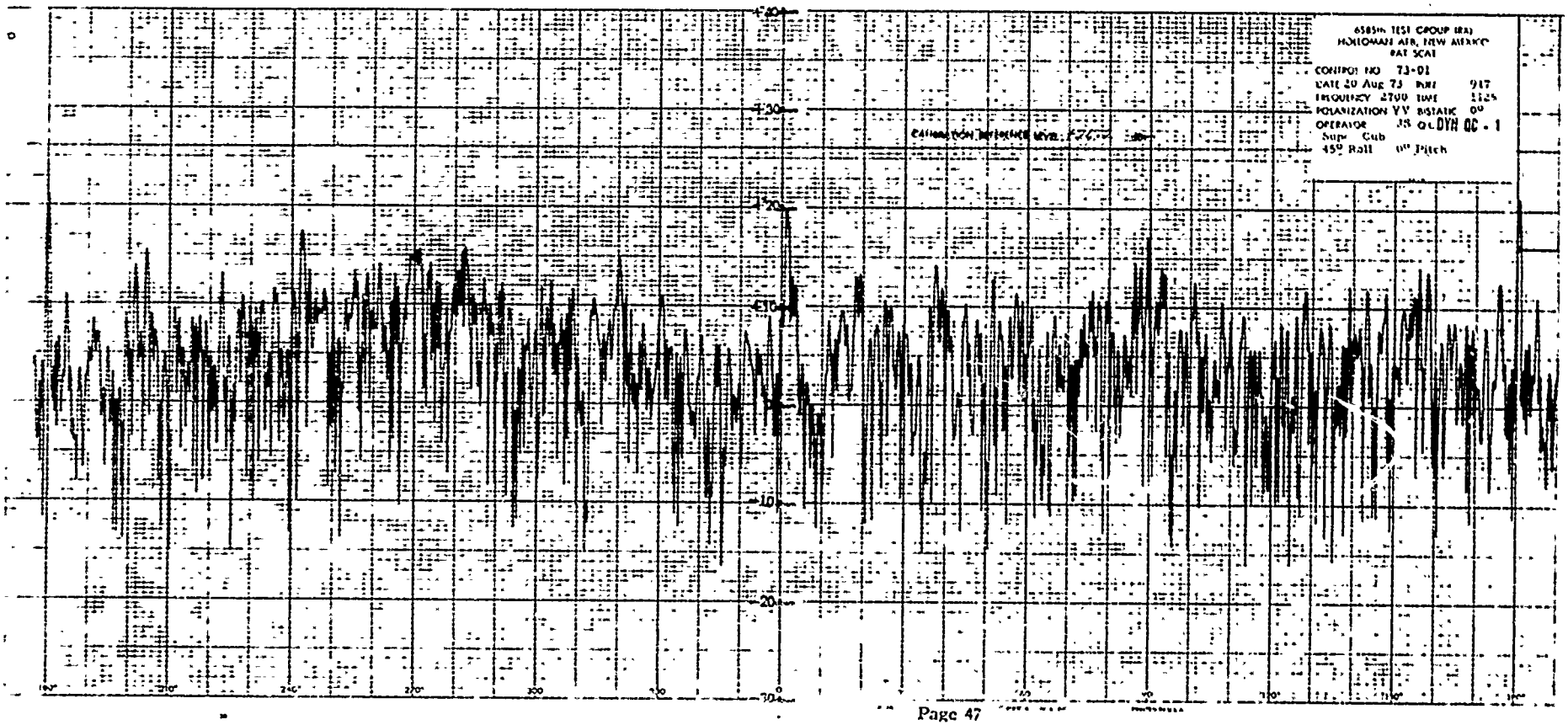

6585th TEST GROUP (RX)
HOLLOMAN AFB NEW MEXICO
RAY SCAT
CONTROL NO 73-01
DATE 29 Aug 73 RUN 934
FREQUENCY 2700 TIME 0845
POLARIZATION VV BISTATIC 0°
OPERATOR MM
Super Cub
30° Roll 0° Pitch
-10
-20
-30
-40
0°
30°
60°
90°

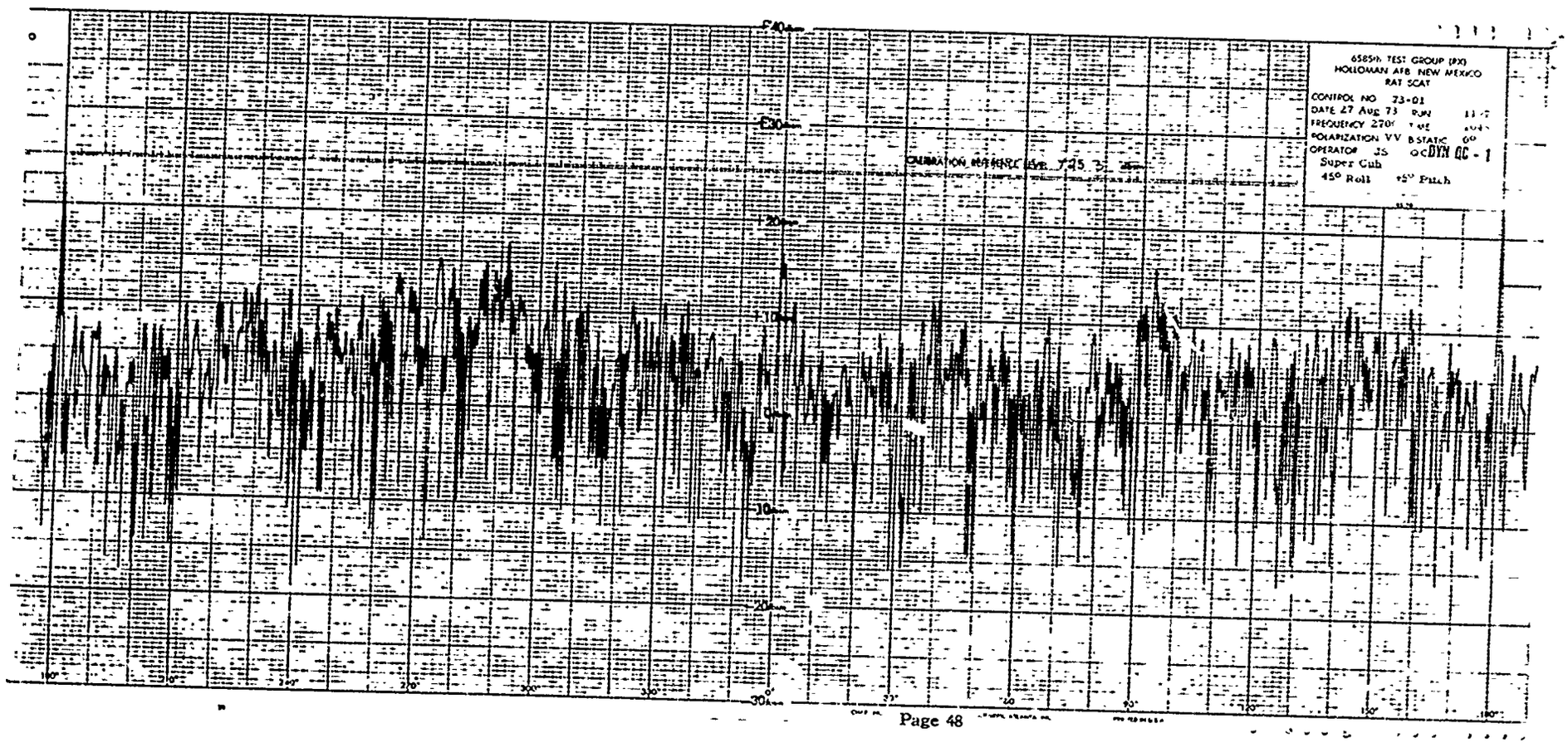

6585th TEST GROUP (RX)
HOLLOMAN AFB, NEW MEXICO
RAT SCAT
CONTROL NO 73-01
DATE 23 Aug 73 RUN 1085
FREQUENCY 2700 TIME 1220
POLARIZATION VV BISTATIC .00
OPERATOR JS QC DTN QC-1
Super Cub
30° Roll 159° Pitch
-30
-20
-10
0
10
20
30
240°
270°
300°
330°
30°
60°
90°
120°
150°

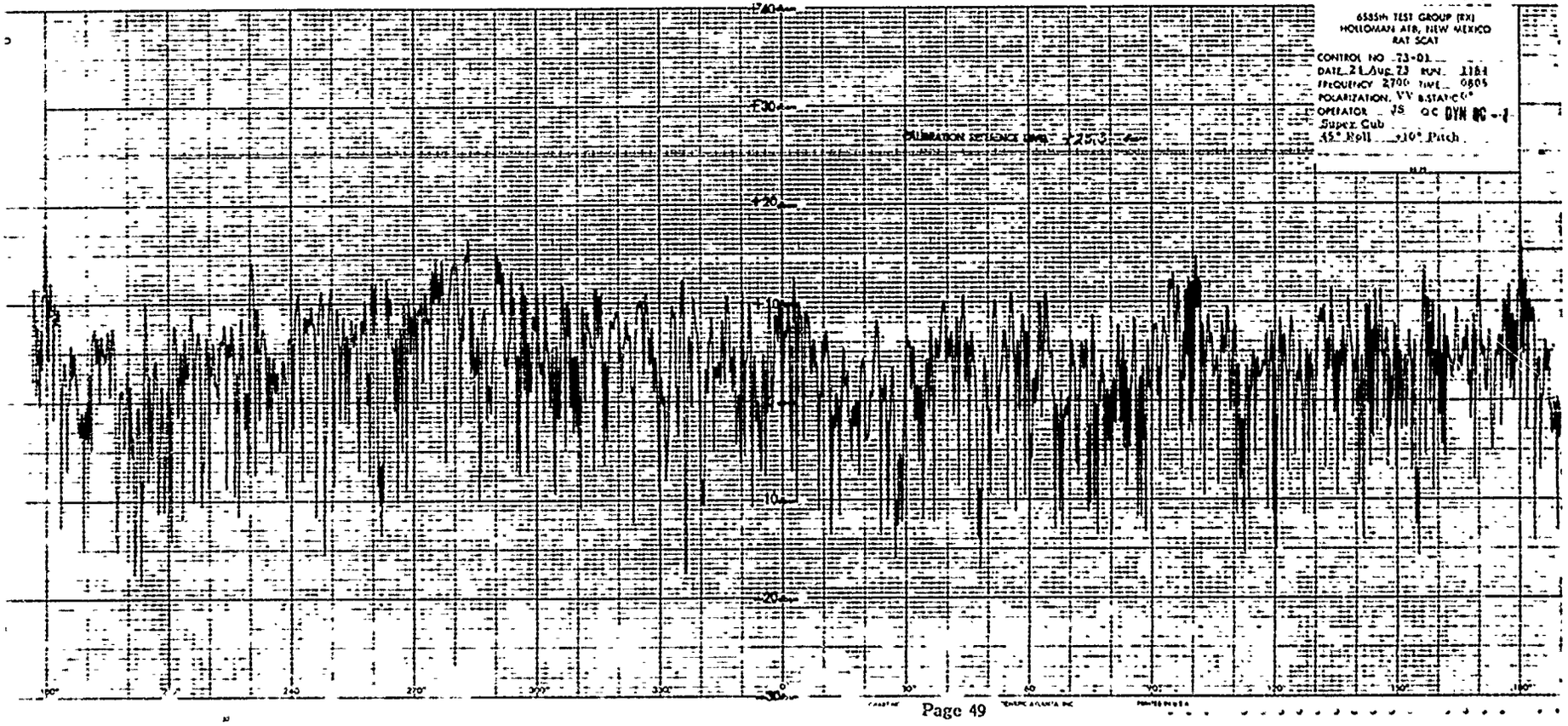

6565th TEST GROUP RXI
HOLLOMAN AFB NEW MEXICO
6A SCAT
CONTROL NO 73-U1
DATE 24 Aug 73
FREQUENCY 2730
POLARIZATION VV
OPERATOR B
Super Cub
3rd° Roll
OTH QC - 1
+40
+30
+20
+10
0
-10
-20
-30

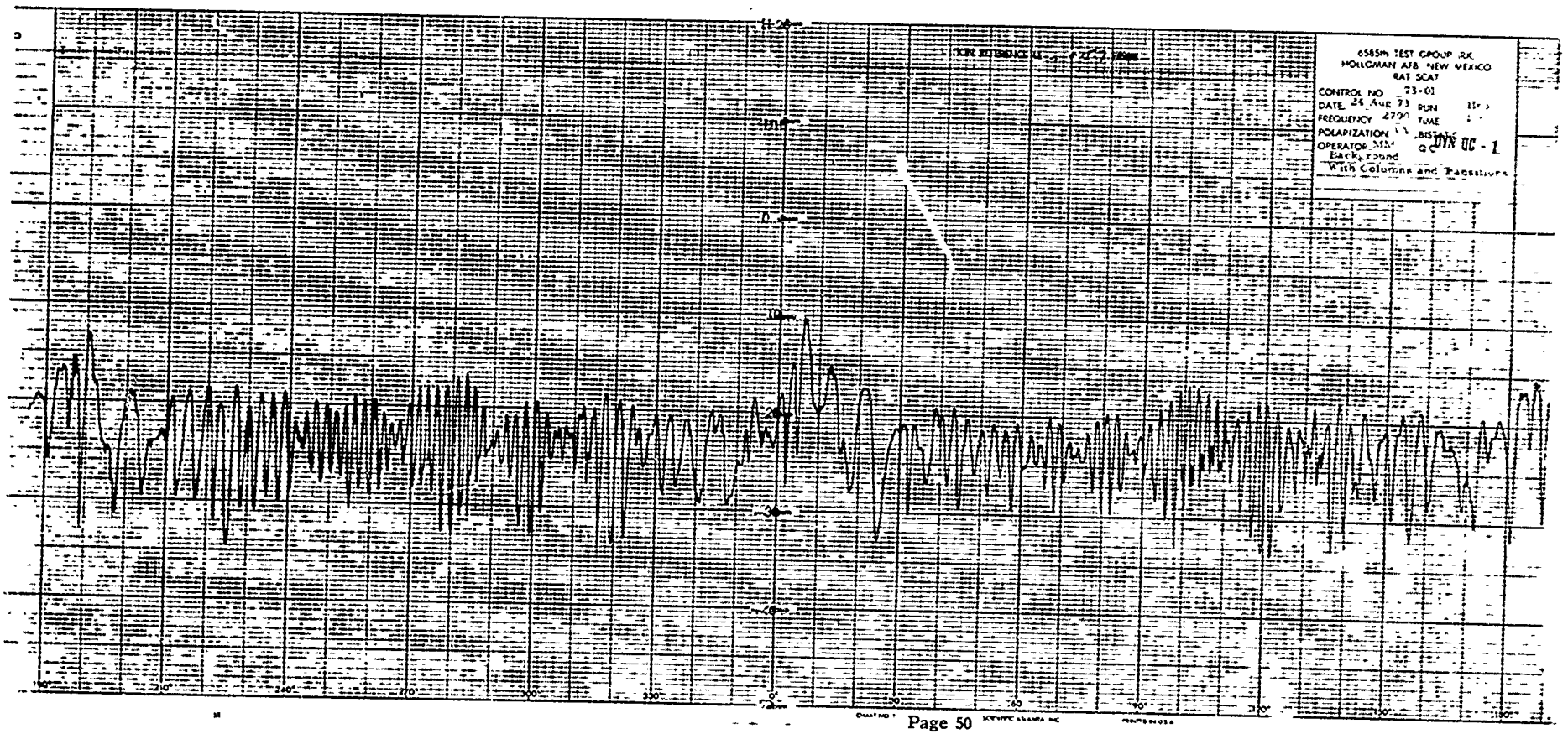

6585th TEST GROUP (RX)
HOLLOMAN AFB NEW MEXICO
RAT SCAT
CONTROL NO 73-01
DATE 21 AUG 73 RUN 269
FREQUENCY 2700 TWT 120
POLARIZATION VV BISTATIC 0°
OPERATOR JS QC DVN QC = 1
Super Cub
45° Roll, -10° Pitch
+40 dBsm
+30 dBsm
+20 dBsm
+10 dBsm
0 dBsm
-10 dBsm
-20 dBsm
-30 dBsm
CALIBRATION REFERENCE SYM +25.7 dBsm
180°
210°
240°
270°
300°
330°
0
30
60
90
120
150
180

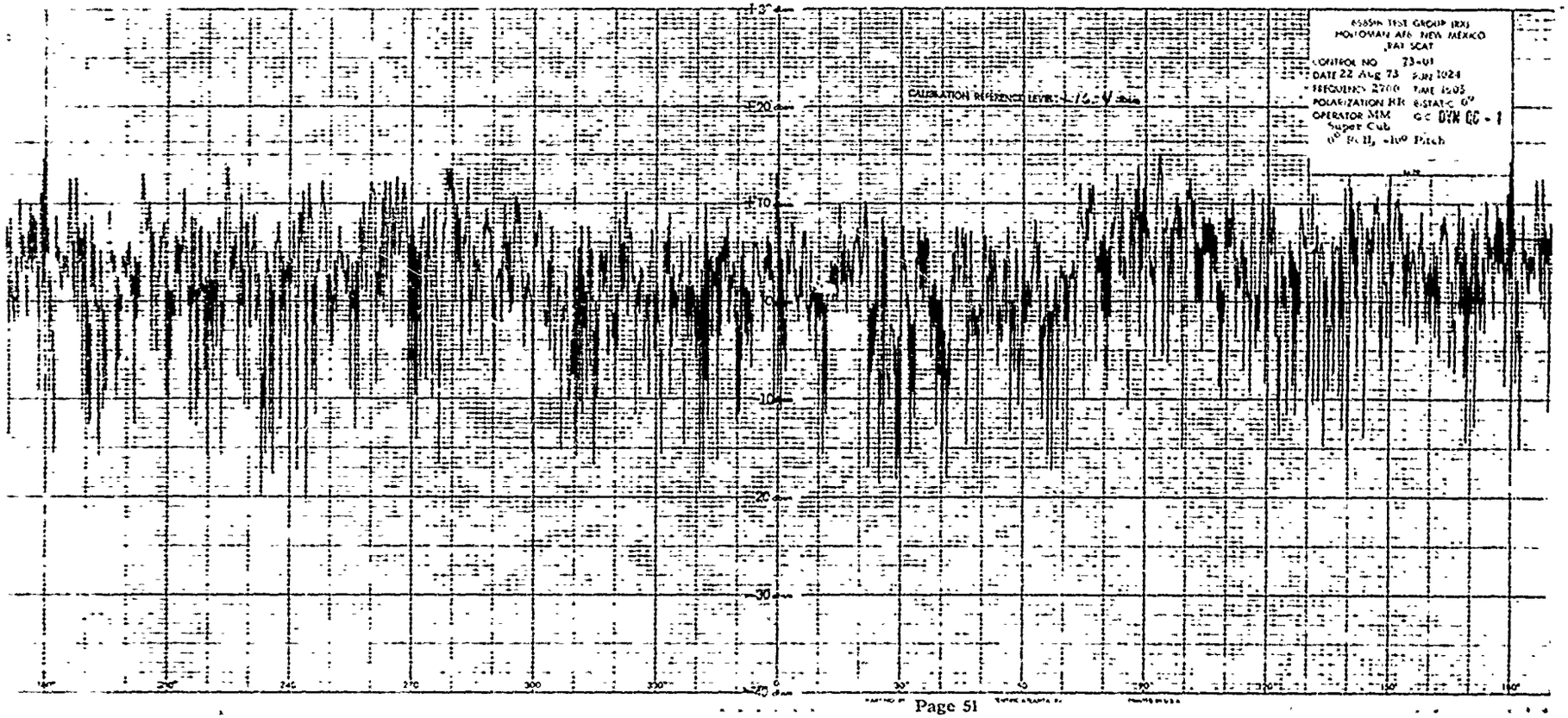

6555th TEST GROUP (RX)
HOLLOMAN AFB, NEW MEXICO
RAT SCAT
CONTROL NO 73-01
DATE 20 Aug 73 RUN 948
FREQUENCY 2700 TIME 1220
POLARIZATION VV BISTATIC 0°
OPERATOR JS OC
Super Cub
45° Roll -5° Pitch
-10dbm
-20dbm
-30dbm

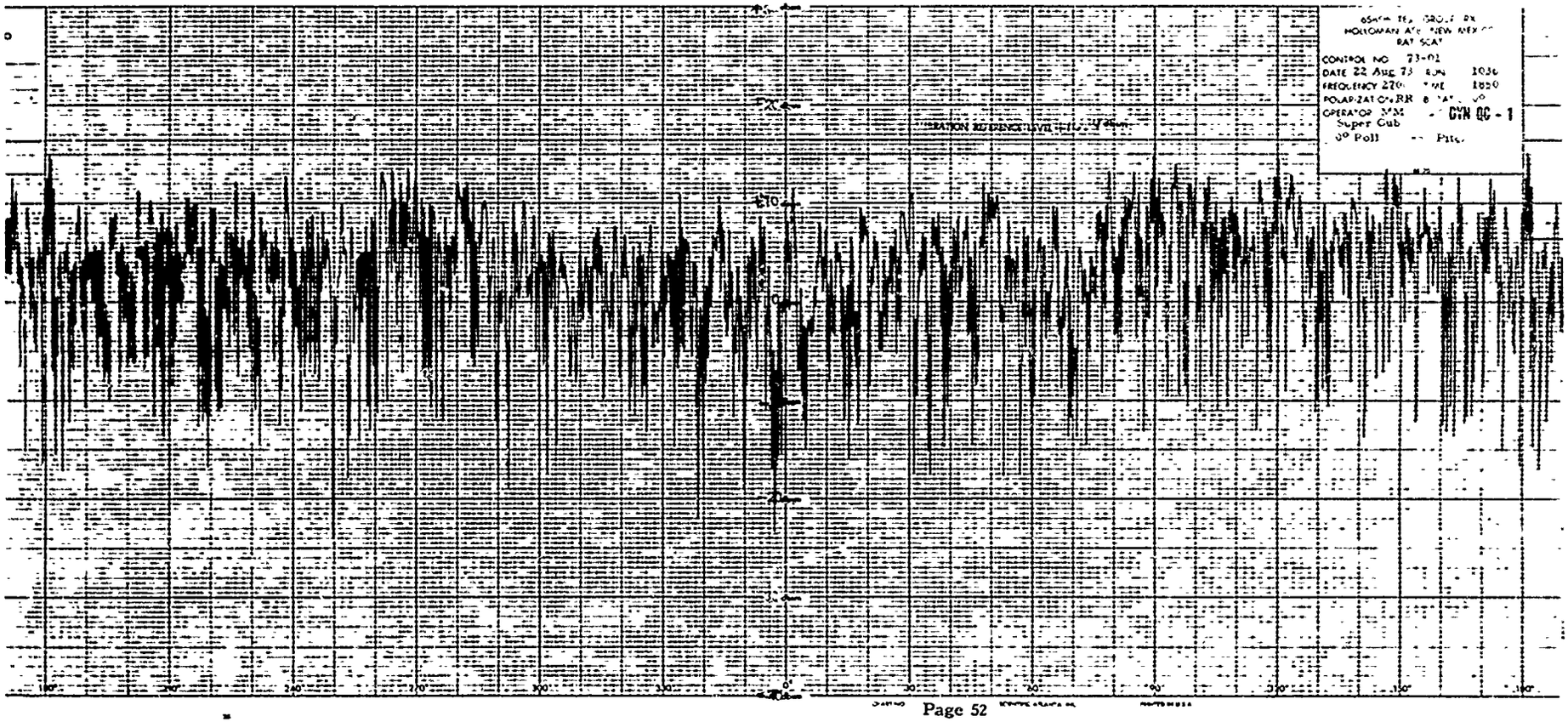

6585th TEST GROUP (RA)
HOLLOMAN AFB, NEW MEXICO
RAE SCAT
CONTROL NO 73-01
DATE 20 Aug 73 RUN 917
FREQUENCY 2700 TIME 1125
POLARIZATION VV BISTATIC 0°
OPERATOR JS QC DYH QC - 1
Supr Cub
45° Roll 0° Pitch
-40
-30
-20
-10
-0

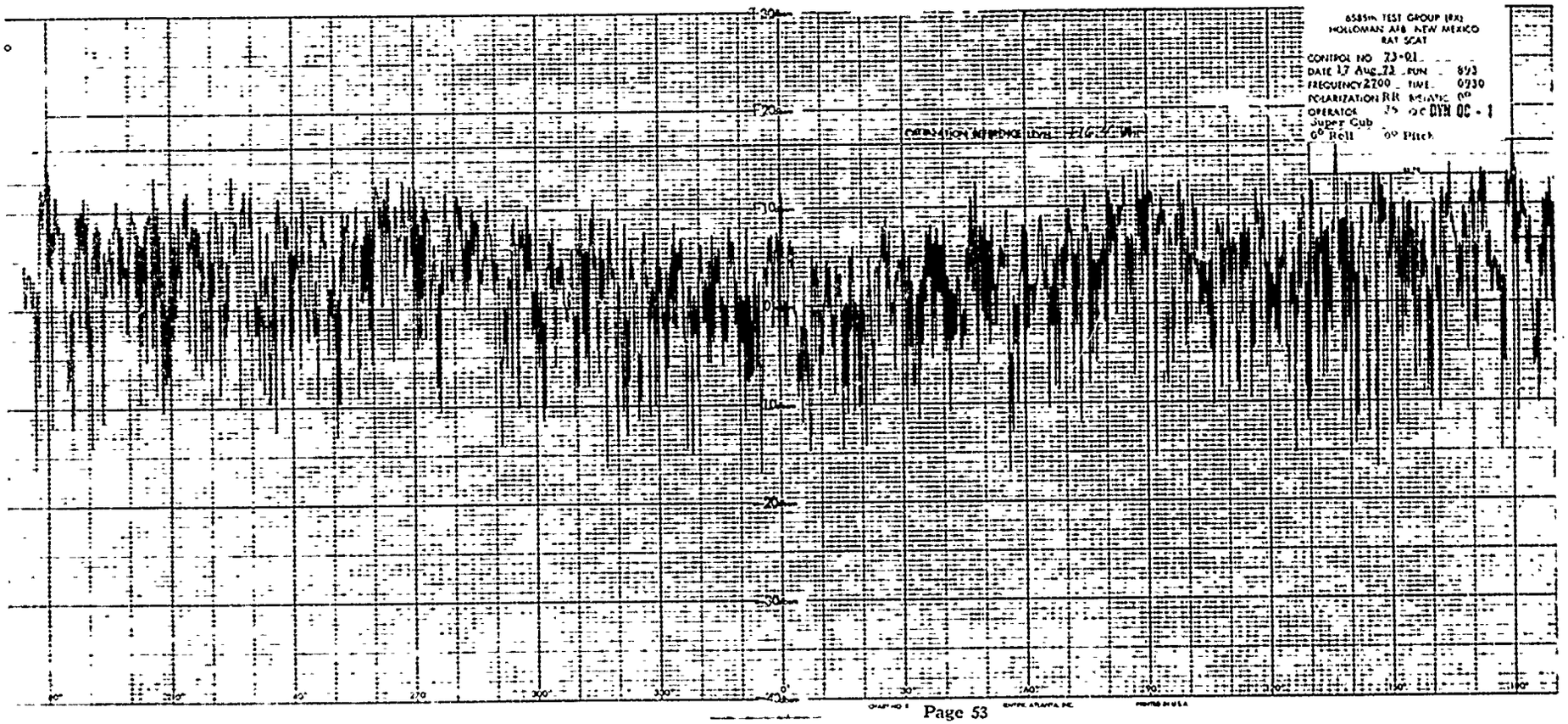

6585th TEST GROUP (PX)
HOLLOMAN AFB NEW MEXICO
RAT SCAT
CONTROL NO 73-01
DATE 27 Aug 73
FREQUENCY 270
POLARIZATION VV
OPERATOR JS
Super Cub
45° Roll
+5° Pitch
QCDYN QC - 1
-40
-30
-20
-10
0
10
20
30
0°
30°
90°
150°
180°

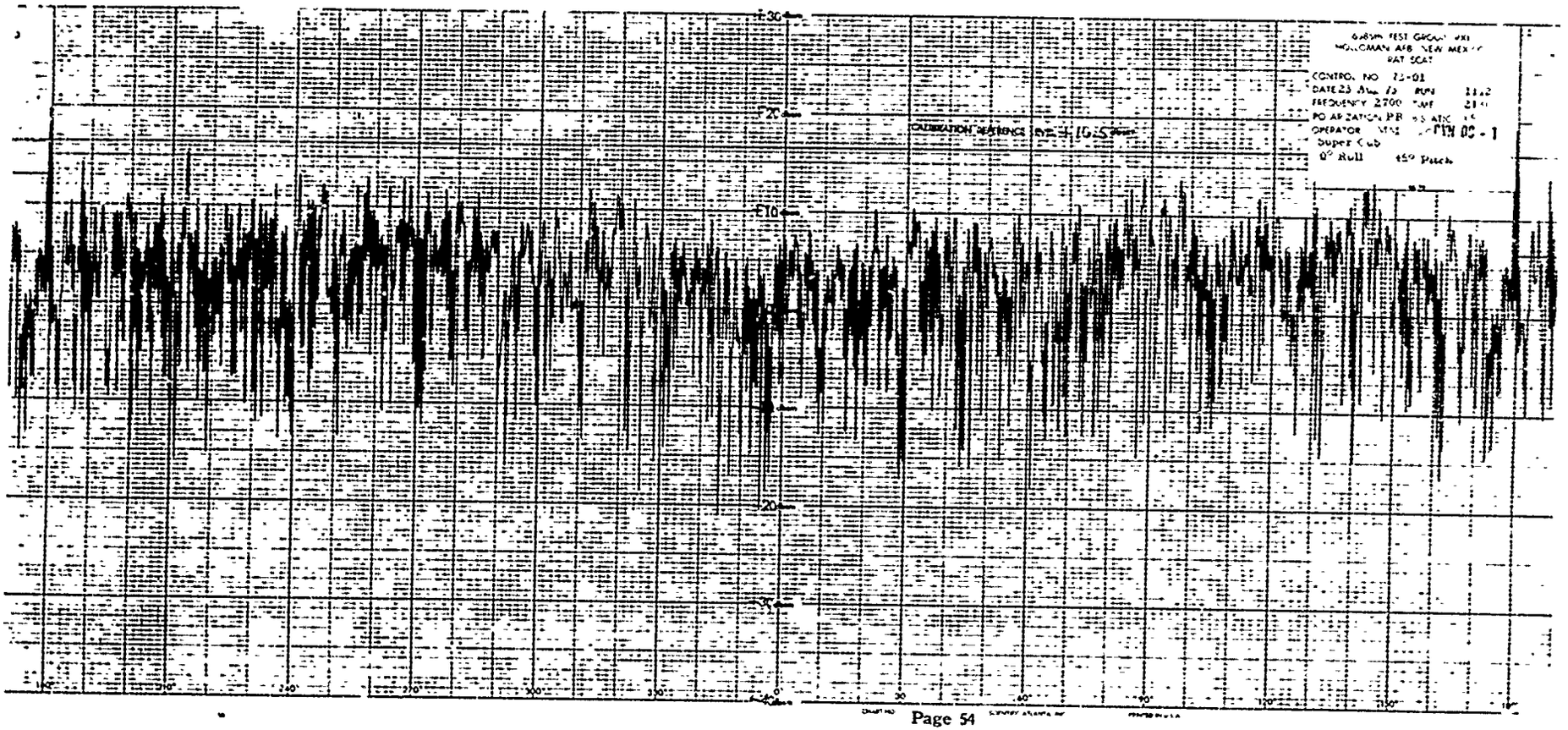

6555th TEST GROUP (RX)
HOLLOMAN AFB, NEW MEXICO
RAT SCAT
CONTROL NO 73-01
DATE 21 Aug 73 RUN 1184
FREQUENCY 2700 TIME 0805
POLARIZATION VV BISTATIC 0°
OPERATOR JS QC DYN RC -1
Super Cub
45° Roll +10° Pitch
CALIBRATION REFERENCE (RCS) +25.0
+40
+30
+20
+10
0
-10
-20
-30
240
270
300
330
30
60
90
120
150
180

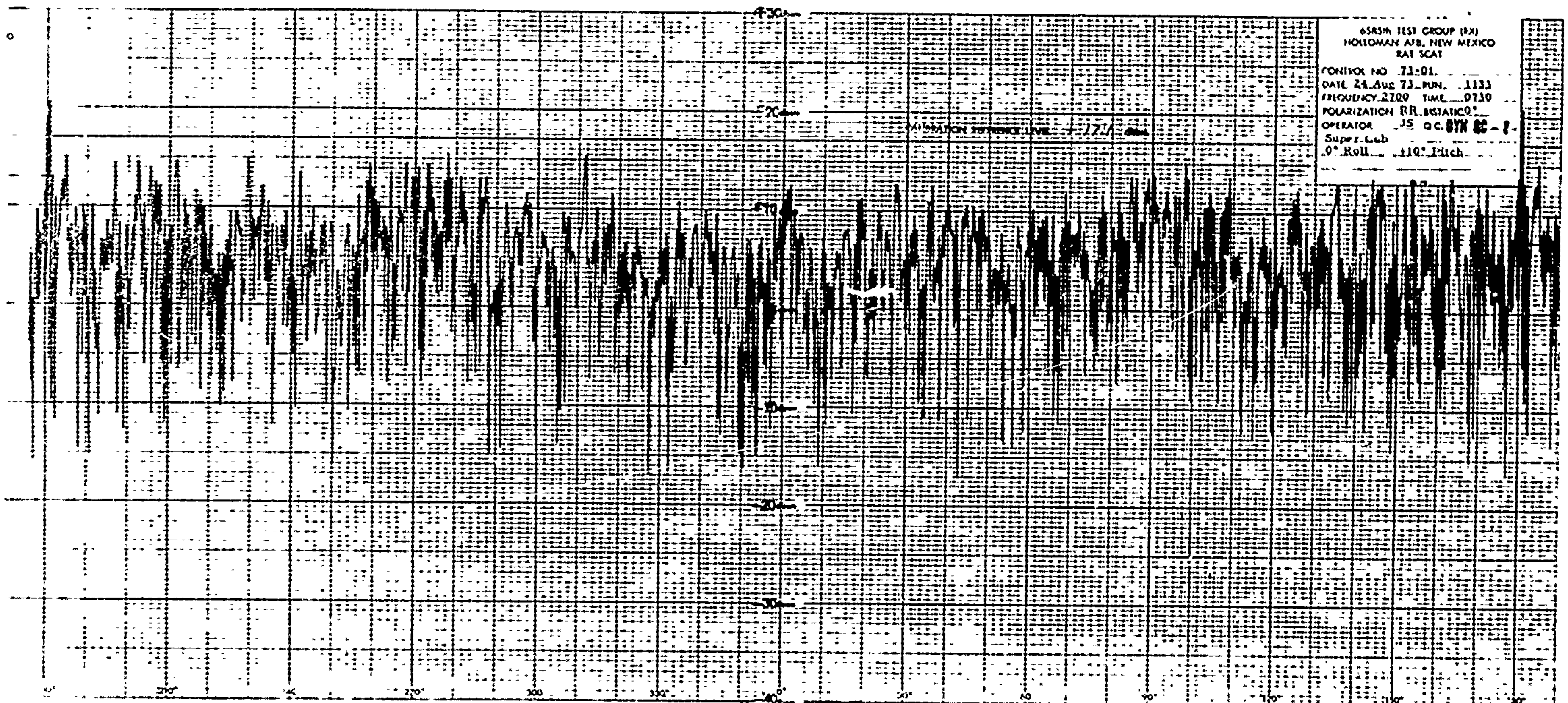

6585th TEST GROUP RK
HOLLOMAN AFB NEW MEXICO
RAT SCAT
CONTROL NO 73-01
DATE 24 Aug 73
FREQUENCY 2790
POLARIZATION
OPERATOR MK
Background
With Columns and Expositors
DYN OC - 1

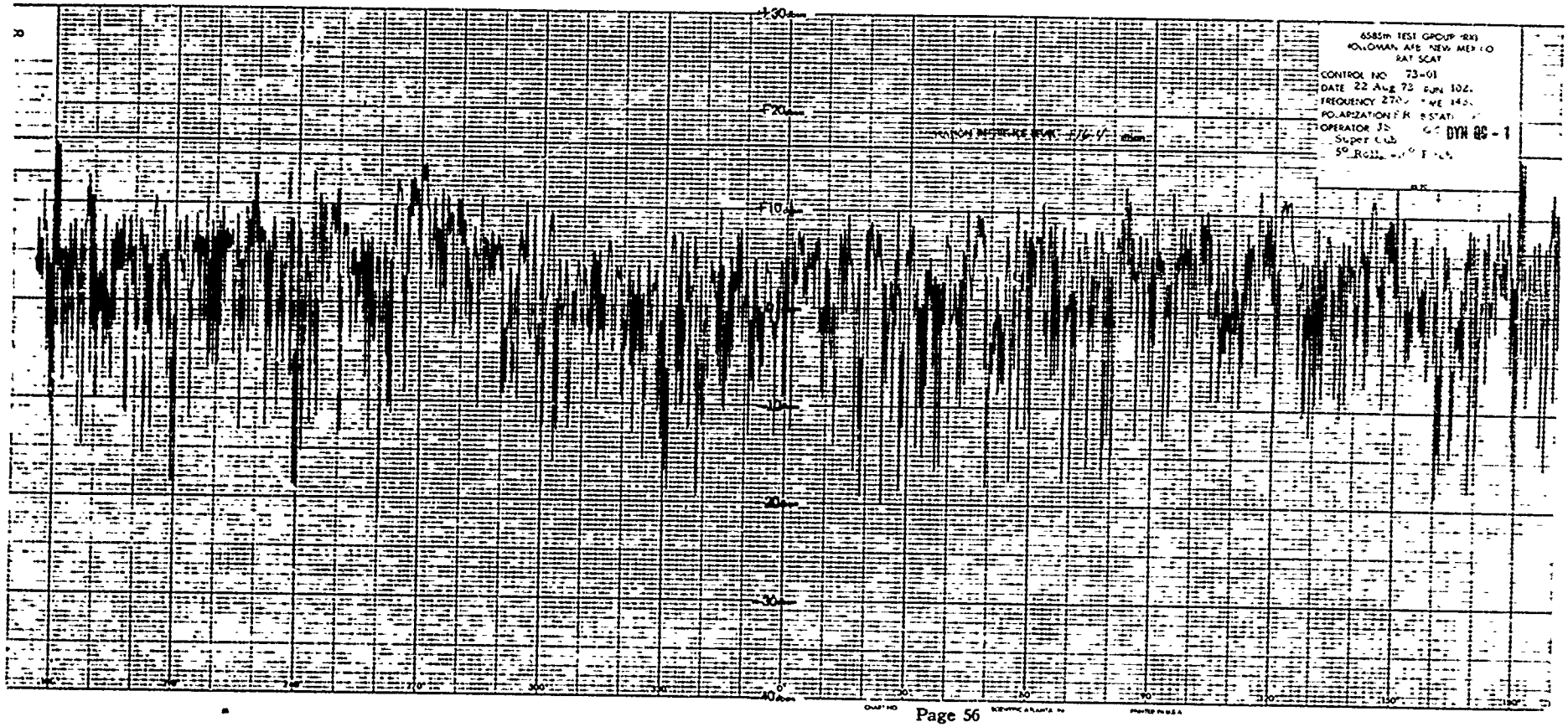

6565th TEST GROUP (RX)
HOLLOMAN AFB NEW MEXICO
RAT SCAT
CONTROL NO 73-01
DATE 22 Aug 73 JUL 1024
FREQUENCY 2700 TIME 1205
POLARIZATION HR ROTATE 0°
OPERATOR MM GC 07W GC - 1
Super Cub
0° R, H, +10° Pitch
CALIBRATION REFERENCE LEVEL
+3
-10
-20
-30
0
30
60
90
120
150
180
210
240
270
300
330

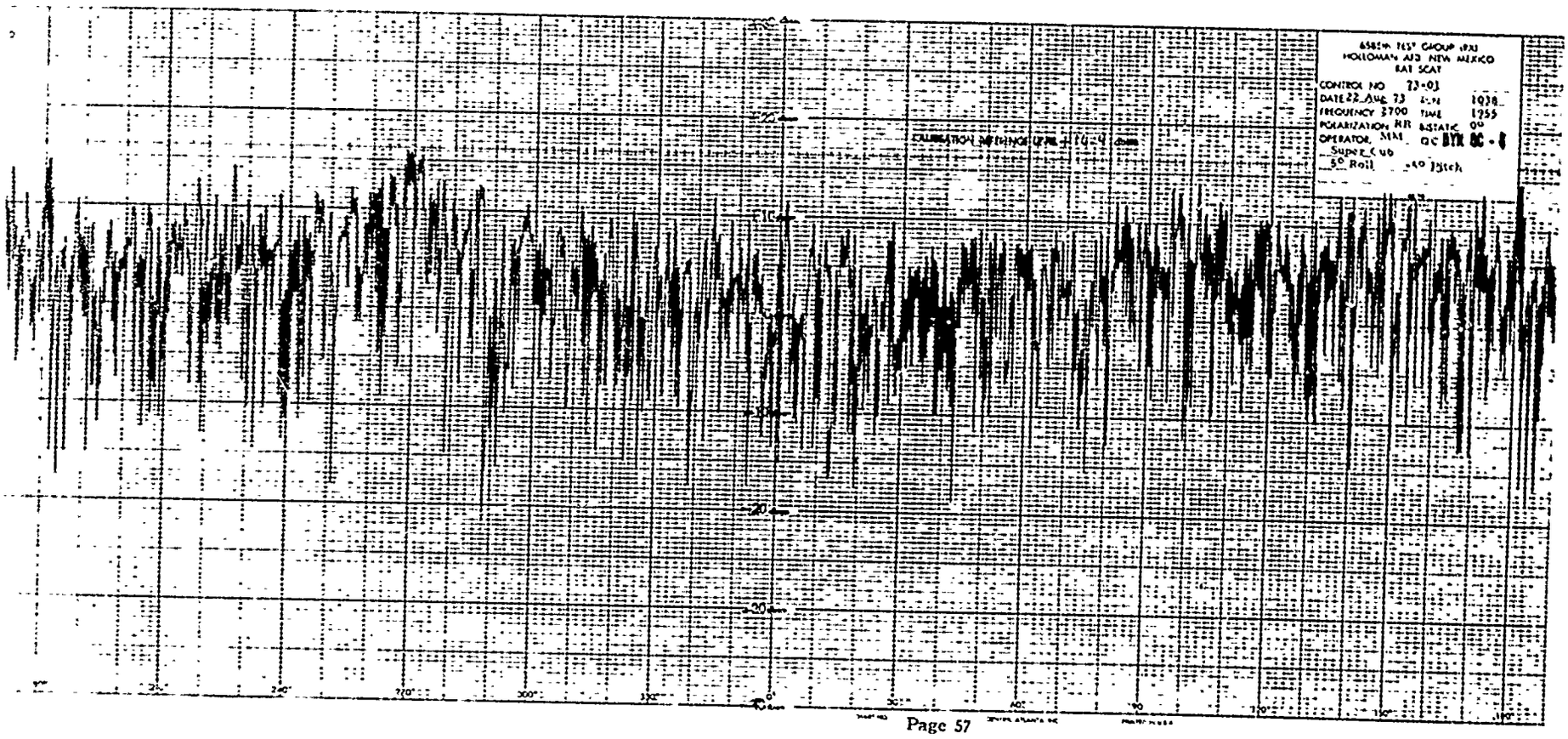

RAT SCAT
CONTROL NO 73-01
Super Cub
CVN QC - 1

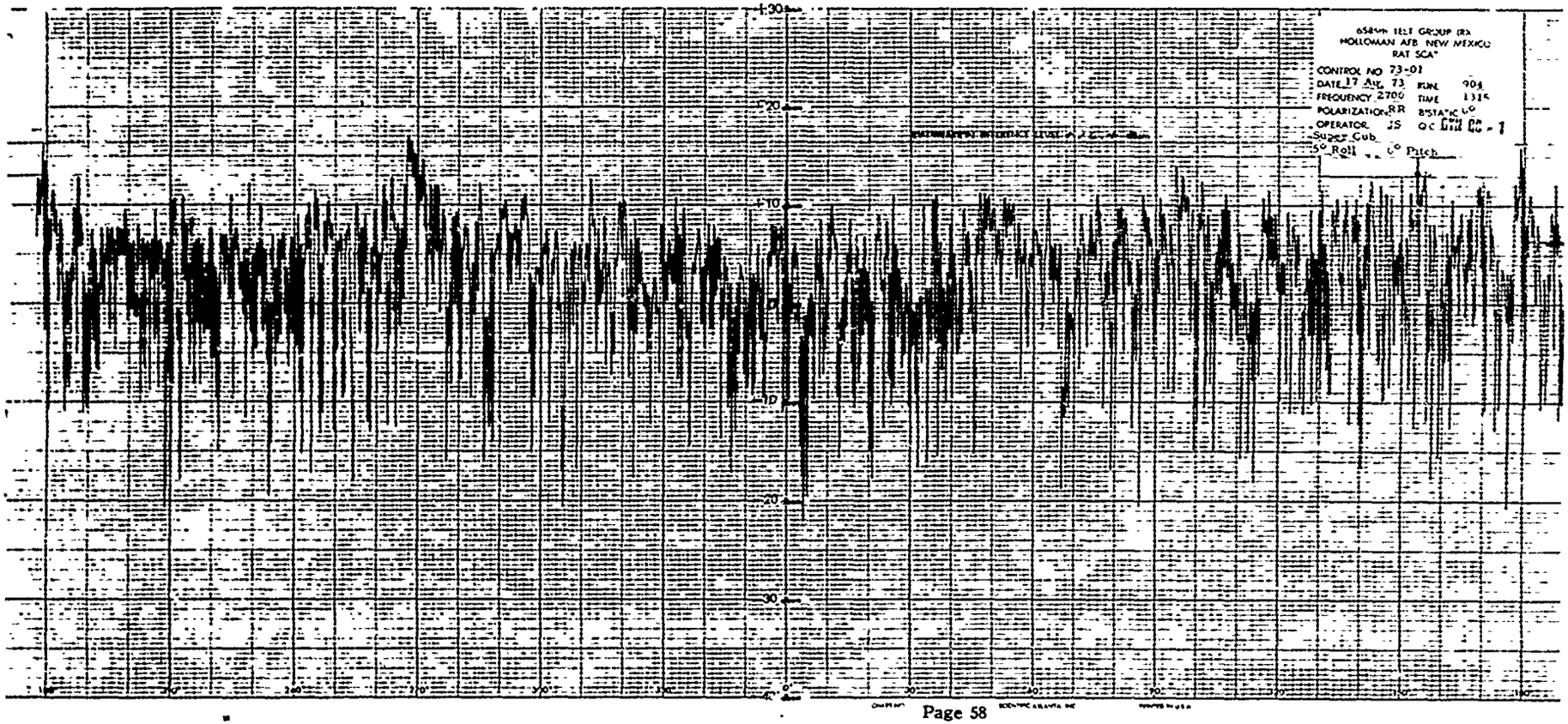

6585th TEST GROUP (RA)
HOLLOMAN AFB, NEW MEXICO
RAT SCAT
CONTROL NO 73-91
DATE 17 Aug 73 RUN 893
FREQUENCY 2700 TIME 0930
POLARIZATION RR AZIMUTH 0°
OPERATOR JS
Super Cub
0° Roll
0° Pitch
-30
-20
-10
0
10
20
30

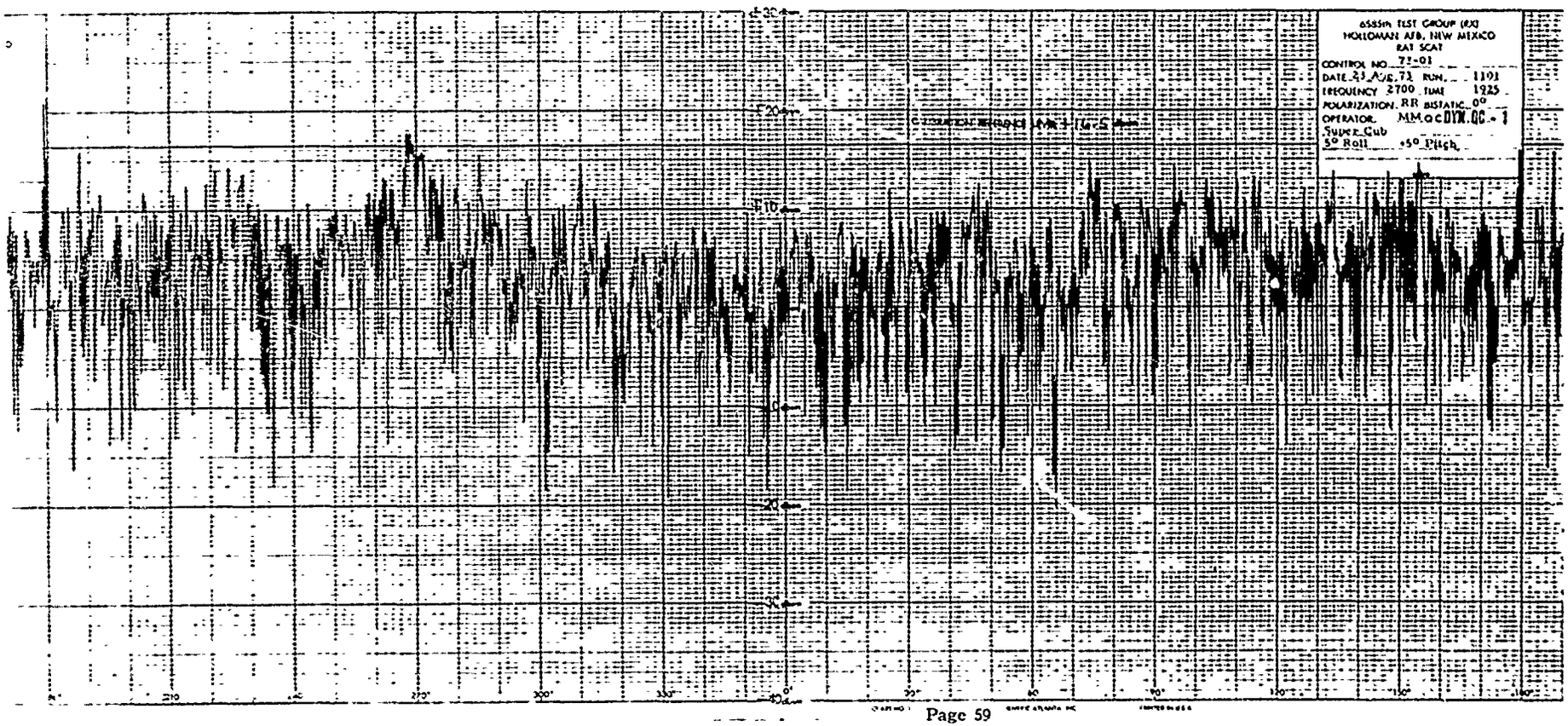

CONTROL NO 73-01
Super Cub
0° Roll
45° Pitch
30
20
10
20
30

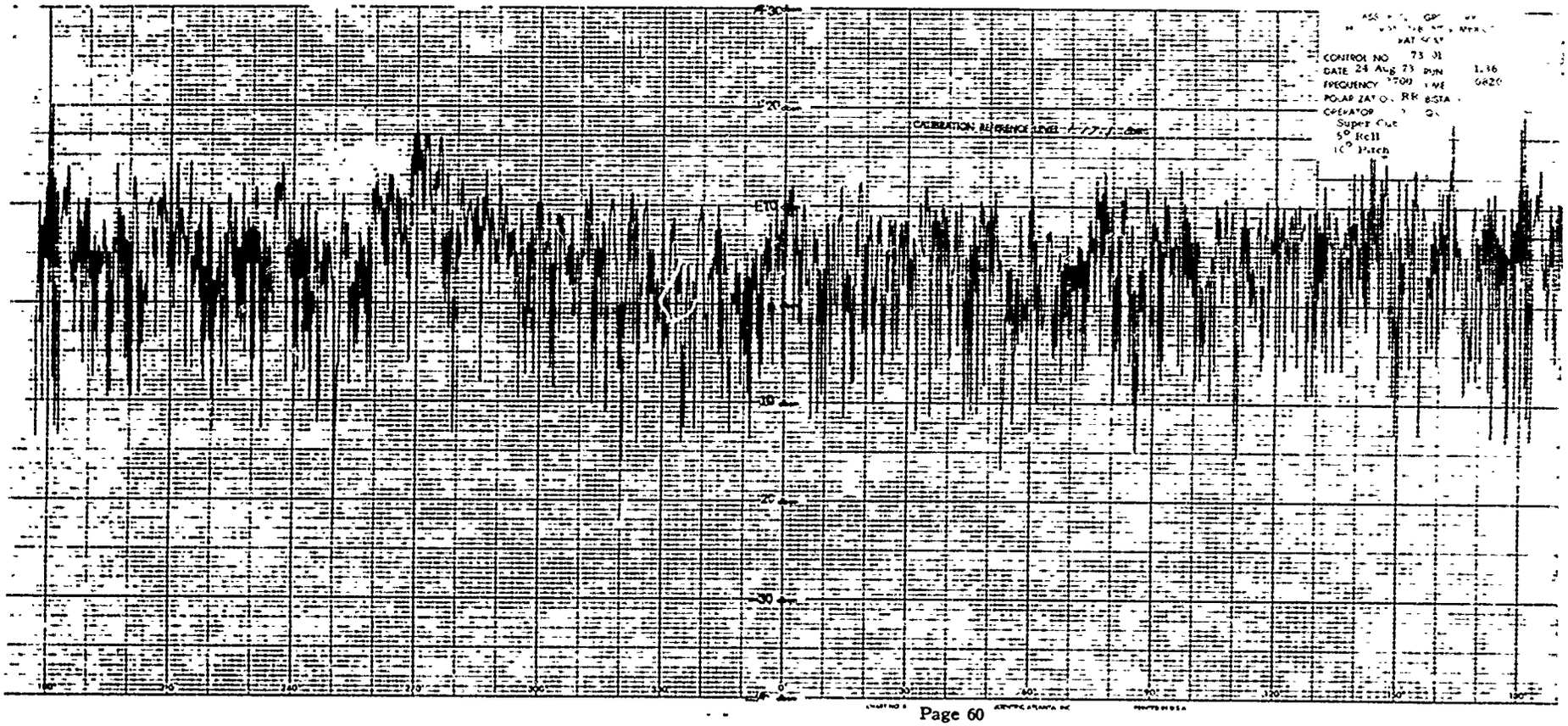

6585th TEST GROUP (RX)
HOLLOMAN AFB, NEW MEXICO
RAT SCAT
CONTROL NO 73-01
DATE 24 Aug 73 RUN 1133
FREQUENCY 2700 TIME 0730
POLARIZATION RR BISTATIC 0°
OPERATOR JS QC
Super Cub
0° Roll 10° Pitch
CALIBRATION REFERENCE LEVEL
+30
+20
+10
0
-10
-20
-30
-40
0°
30°
60
90°
120°
150°
180°
210°
240°
270°
300
330°

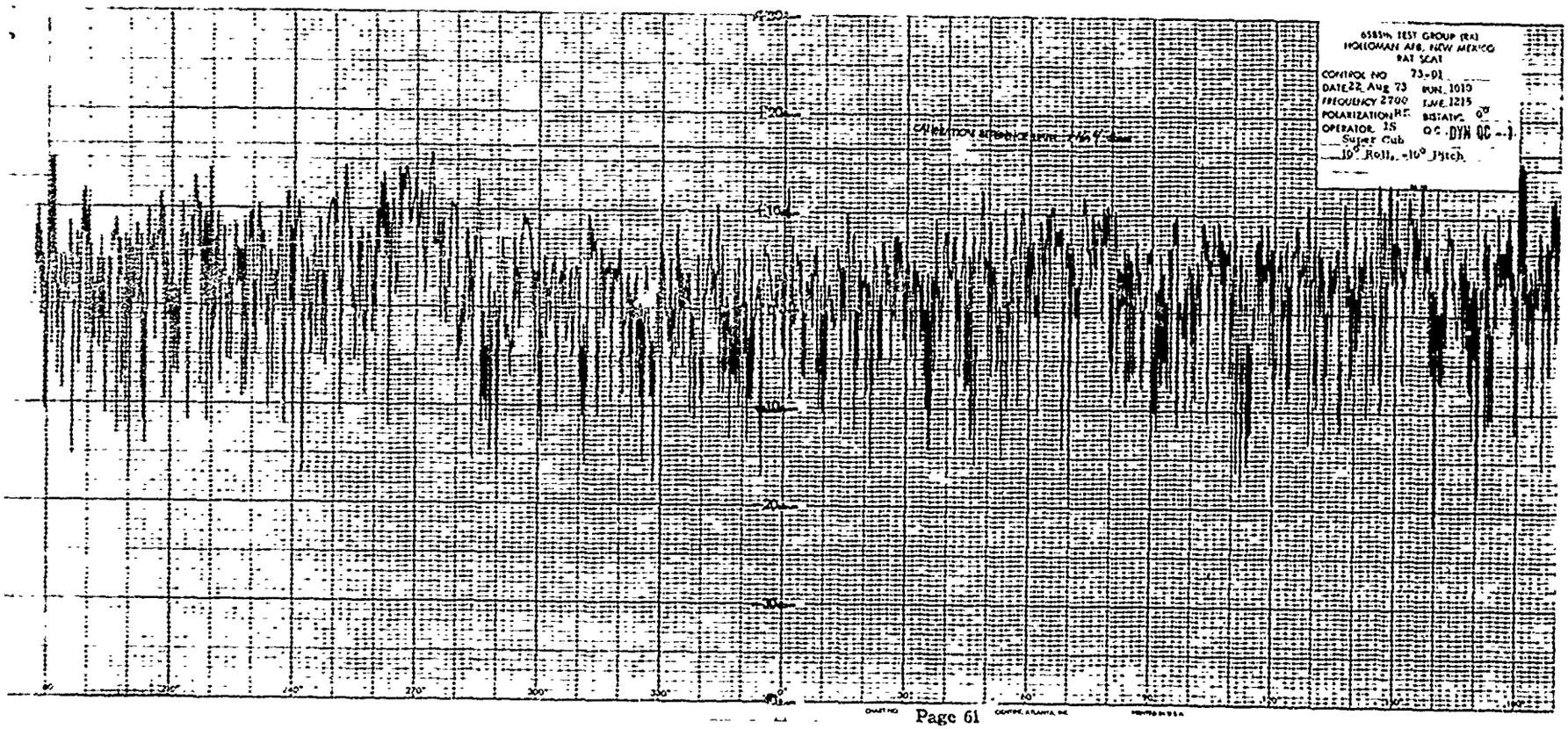

6585th TEST GROUP (RX)
HOLLOMAN AFB NEW MEXICO
RAT SCAT
CONTROL NO 73-01
DATE 22 AUG 73 RUN 102
FREQUENCY 270
POLARIZATION
OPERATOR
Super Cub
DYN RC - 1
+30dbm
+20dbm
+10dbm
0
-10dbm
-20dbm
-30dbm
-40dbm

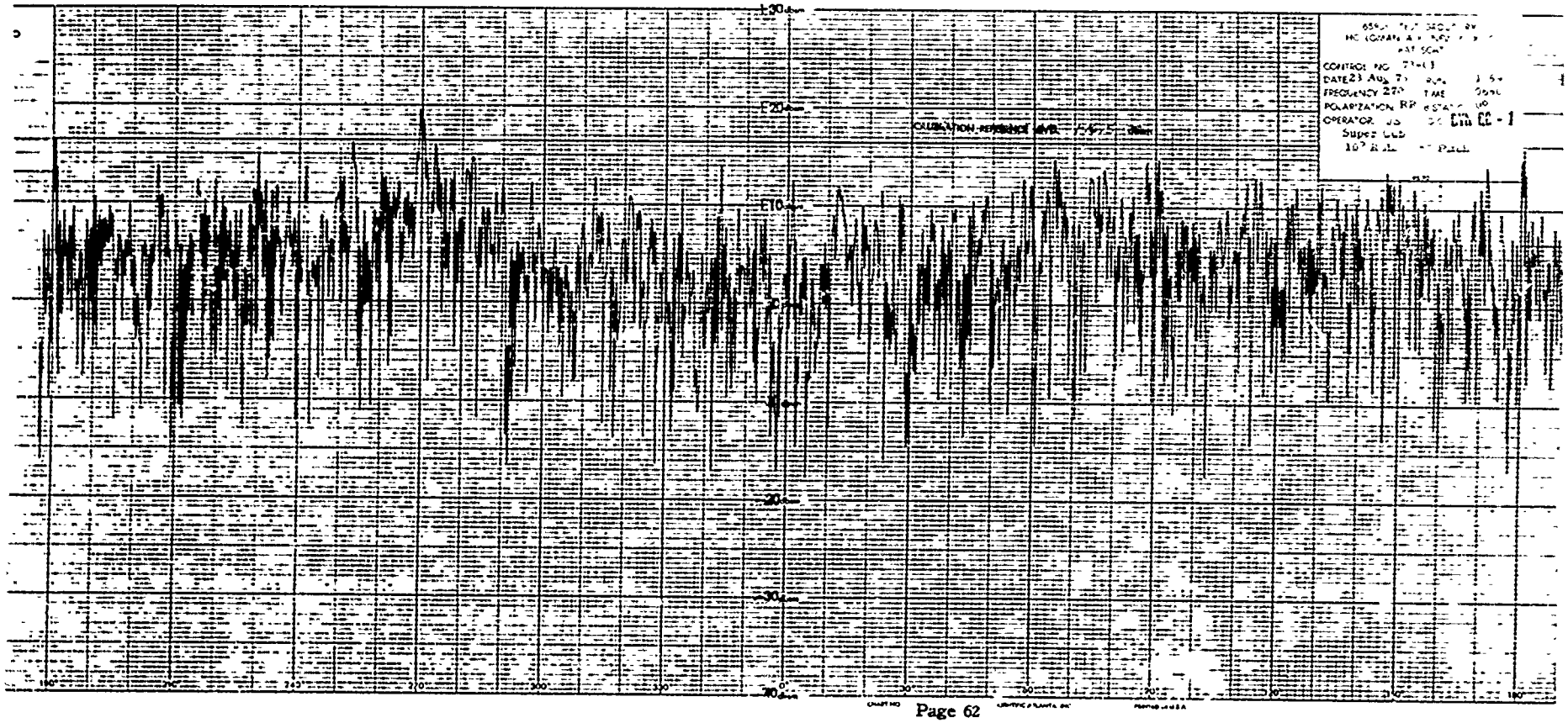

6585th TEST GROUP (PJ)
HOLLOMAN AFB NEW MEXICO
RAT SCAT
CONTROL NO 73-03
DATE 22 Aug 73
FREQUENCY 3700
TIME 1955
POLARIZATION RR
OPERATOR SSgt
Super Cub
5° Roll
-10
-20
-30
0°

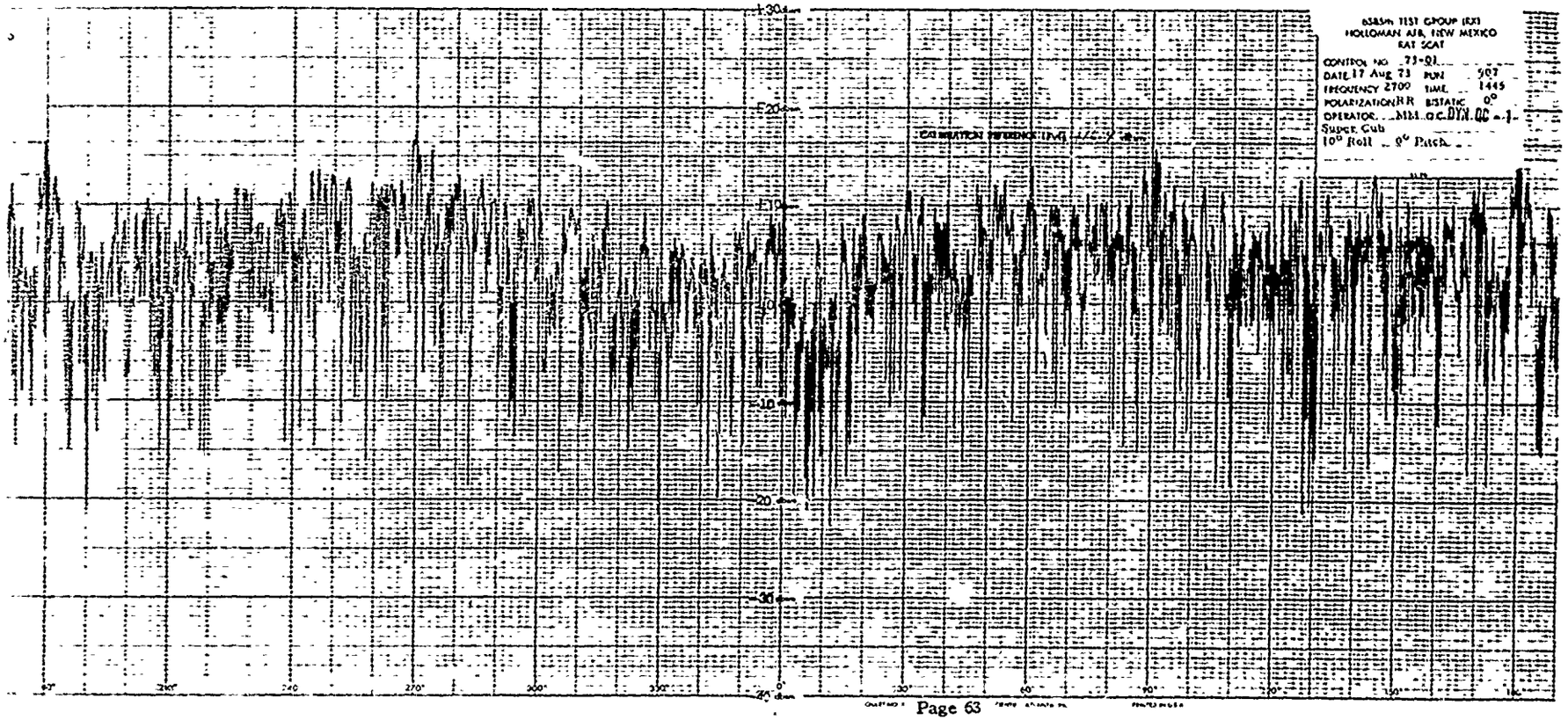

6584th TEST GROUP (R)
HOLLOMAN AFB NEW MEXICO
RAT SCAT
CONTROL NO 73-01
DATE 17 Aug 73 RUN 904
FREQUENCY 2700 TIME 1315
POLARIZATION RR BISTATIC 0°
OPERATOR JS OC Grid CC - 1
Super Cub
5° Roll 0° Pitch
+30
+20
+10
0
-10
-20
-30
0°

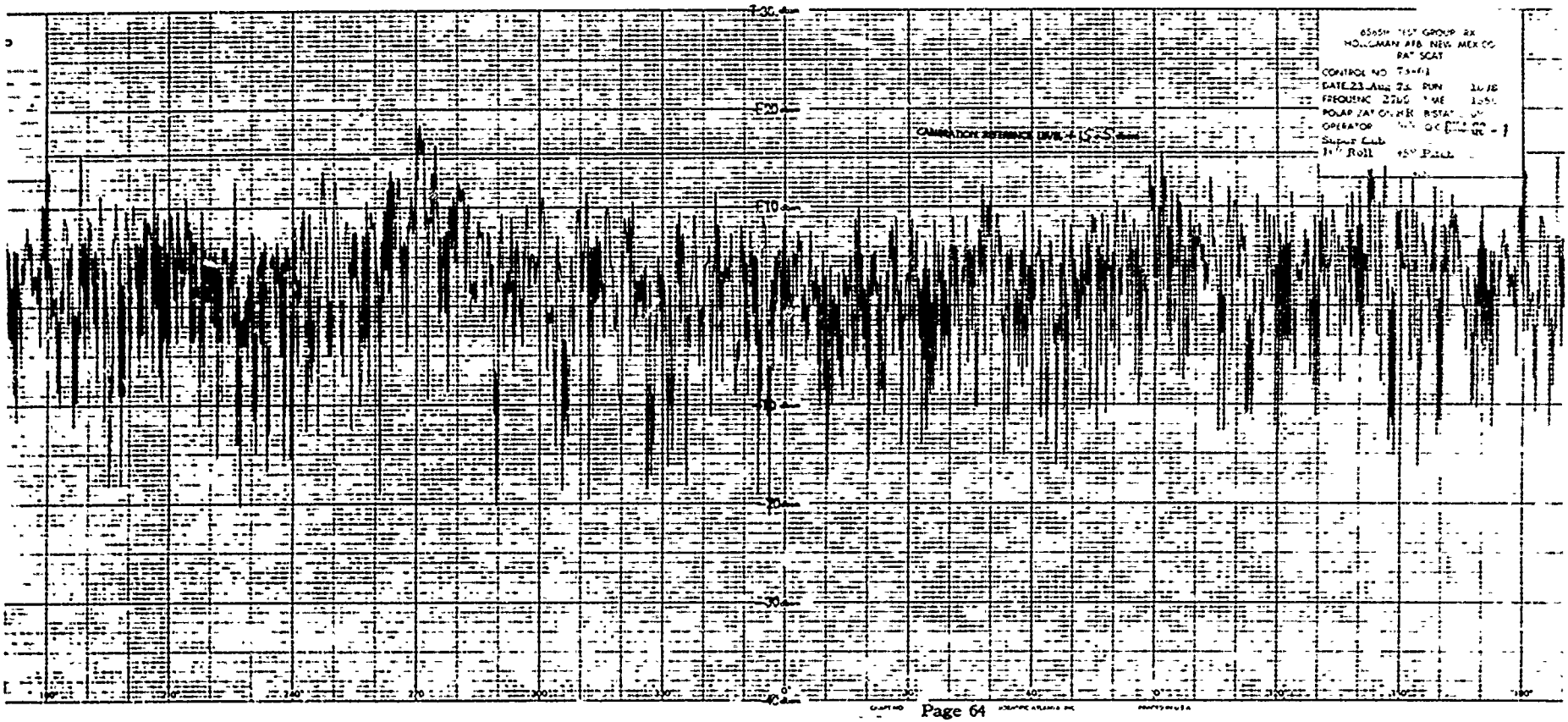

6555th TEST GROUP (RX)
HOLLOMAN AFB, NEW MEXICO
RAT SCAT
CONTROL NO. 71-01
DATE 23 AUG. 71 RUN 1101
FREQUENCY 2700 TIME 1925
POLARIZATION RR BISTATIC 0°
OPERATOR MM, OC DYK, QC - T
Super Cub
5° Roll +5° Pitch
+30
+20
+10
0
-10
-20
-30
210°
270°
300°
330°
0°
30°
60°
90°
120°
150°
180°

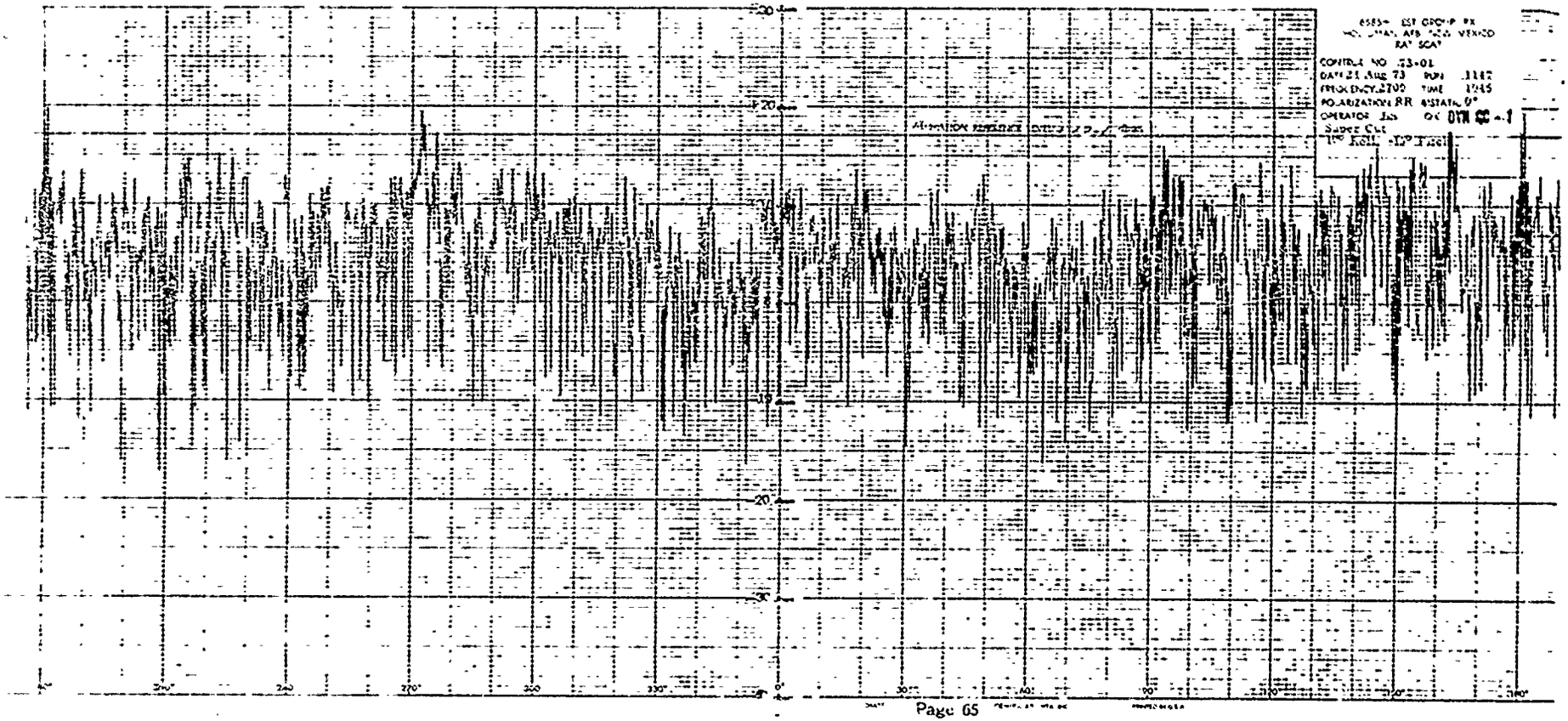

CONTROL NO 73 31
DATE 24 Aug 73
FREQUENCY 1700
POLARIZATION RR
OPERATOR
Super Cub
5° Roll
10° Pitch
CALIBRATION REFERENCE LEVEL
-30
-20
-10
0
-20
-30
0
30
60
90
120
150
180

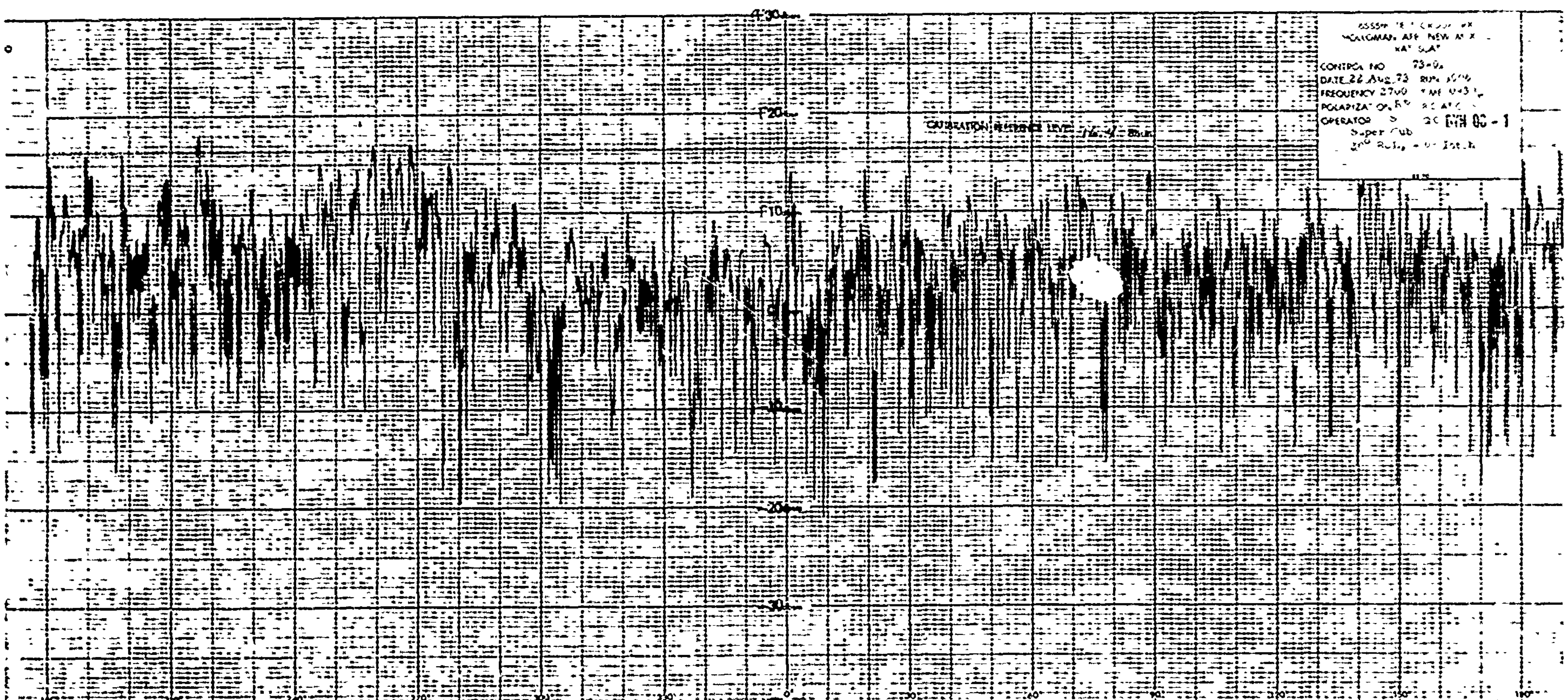

6585th TEST GROUP (RA)
HOLLOMAN AFB, NEW MEXICO
RAT SCAT
CONTROL NO 73-91
DATE 22 Aug 73
RUN 1010
FREQUENCY 2700
TAPE 1215
POLARIZATION HIT
ROTATION 0°
OPERATOR JS
QC - DYN QC -
Super Cub
10° Roll, -10° Pitch
CALIBRATION SPHERE LEVEL -40.0 dBsm
-10
-20
-30
0°
90°
180°
270°
300°
330°

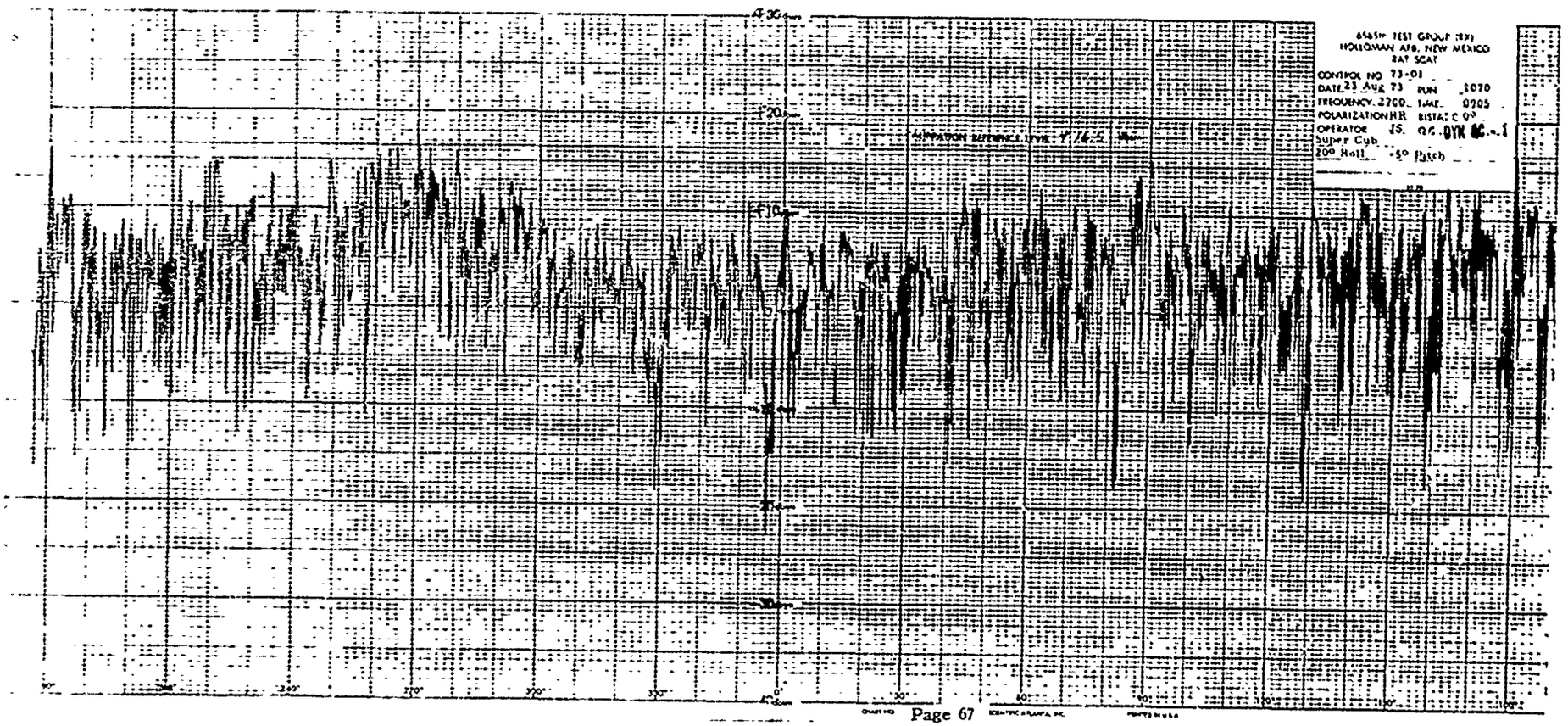

-30
-20
-10
0
-10
-20
-30
CONTROL NO.
DATE 23 Aug 7
FREQUENCY 27
POLARIZATION RP
OPERATOR JD
Super Cub
CM CC - 1

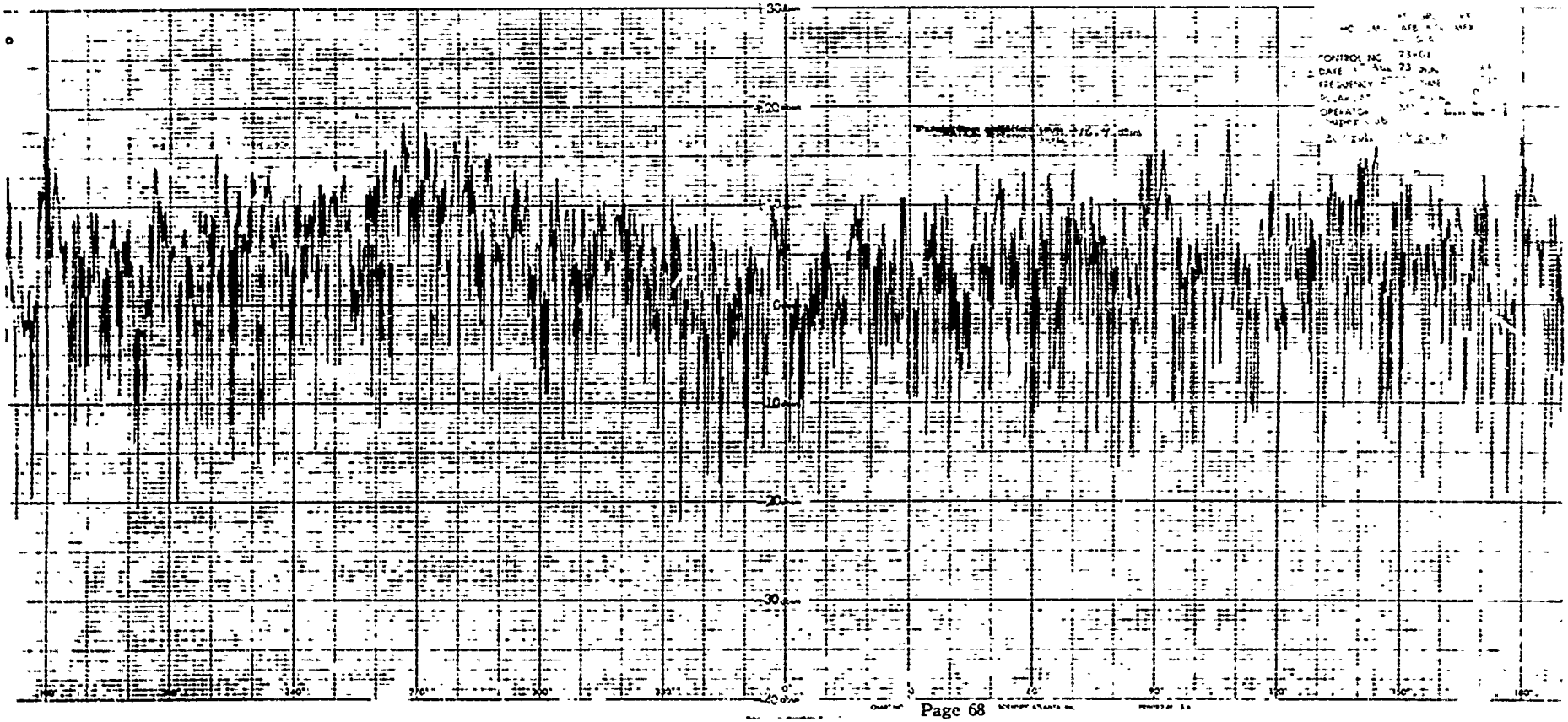

6585th TEST GROUP (RX)
HOLLOMAN AIR, NEW MEXICO
RAT SCAT
CONTROL NO 73-91
DATE 17 Aug 73 RUN 507
FREQUENCY 2700 TIME 1445
POLARIZATION RR BISTATIC 0°
OPERATOR MM QC DYN QC
Super Cub
10° Roll 9° Pitch
-30
-20
-10
0
-20
-30
0°
30°
60°
90°
120°
150°
180°
210°
240°
270°
300°
330°

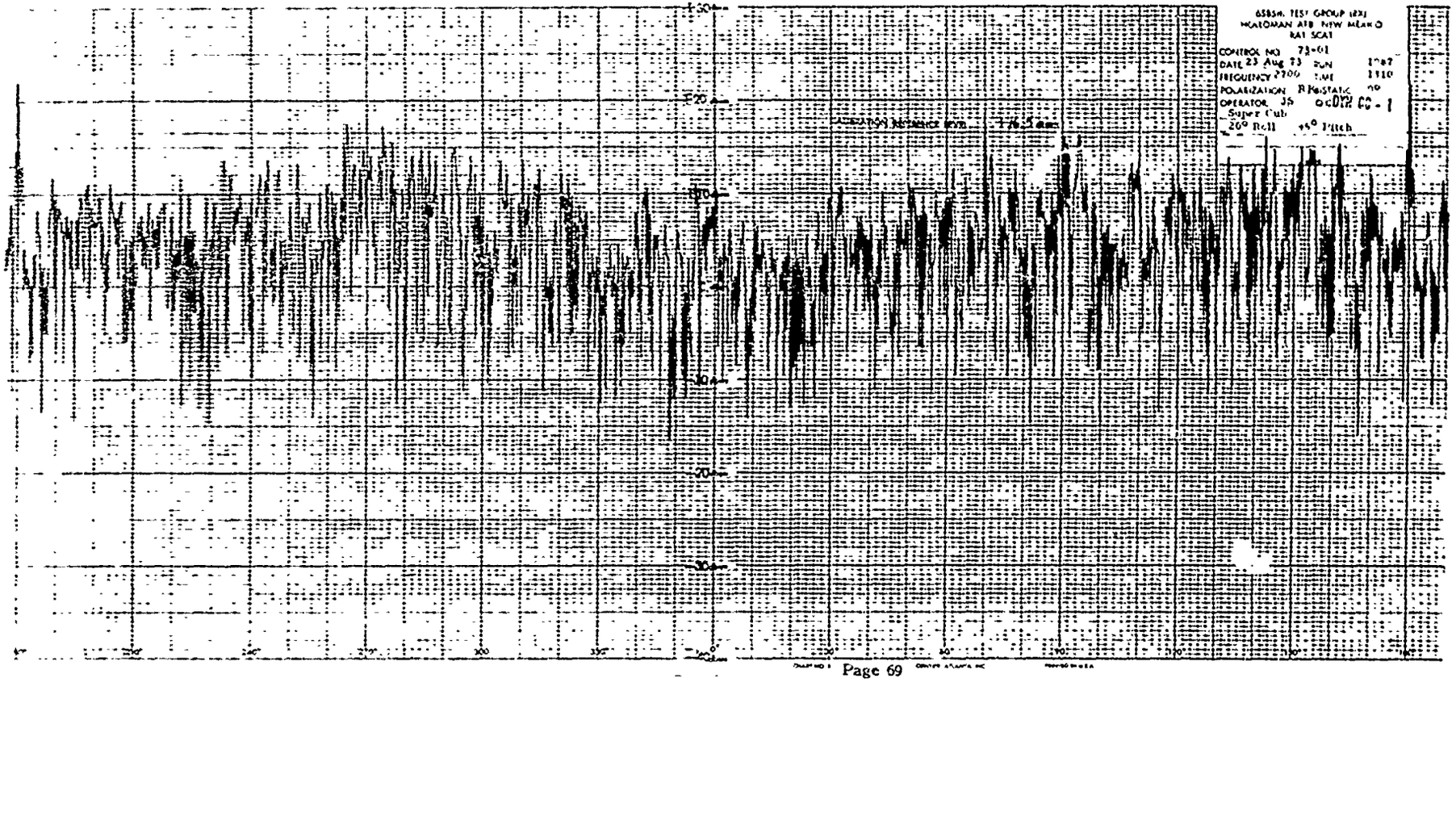

6565th TEST GROUP RX
HOLLOMAN AFB NEW MEXICO
PAT SCAT
CONTROL NO
DATE 23 Aug 73
RUN
FREQUENC 2760
TIME
POLAR PATTERN
OPERATOR
Super Gain
1/4° Roll
45° Pitch
CALIBRATION REFERENCE LEVEL
-10
-20
-30
-40
0°
90°
180°
270°
360°

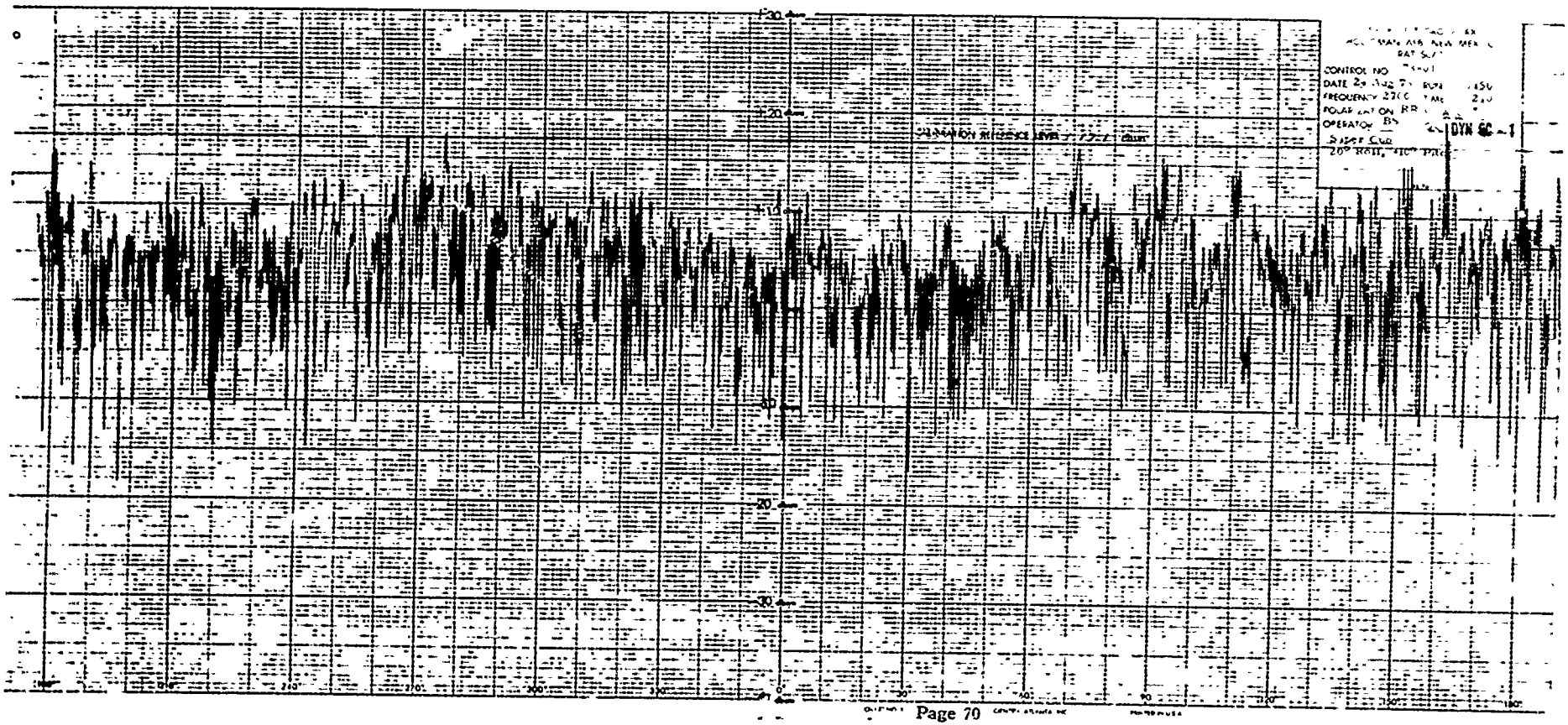

6585th TEST GROUP PK
RAT SCAT
CONTROL NO 73-01
DATE 21 Aug 73
FREQUENCY 2700
POLARIZATION RR
OPERATOR
Super Cal
10° Roll
-10
-20
-30
0°
30°
60°
90°
120°
150°
180°
210°
240°
270°
300°
330°

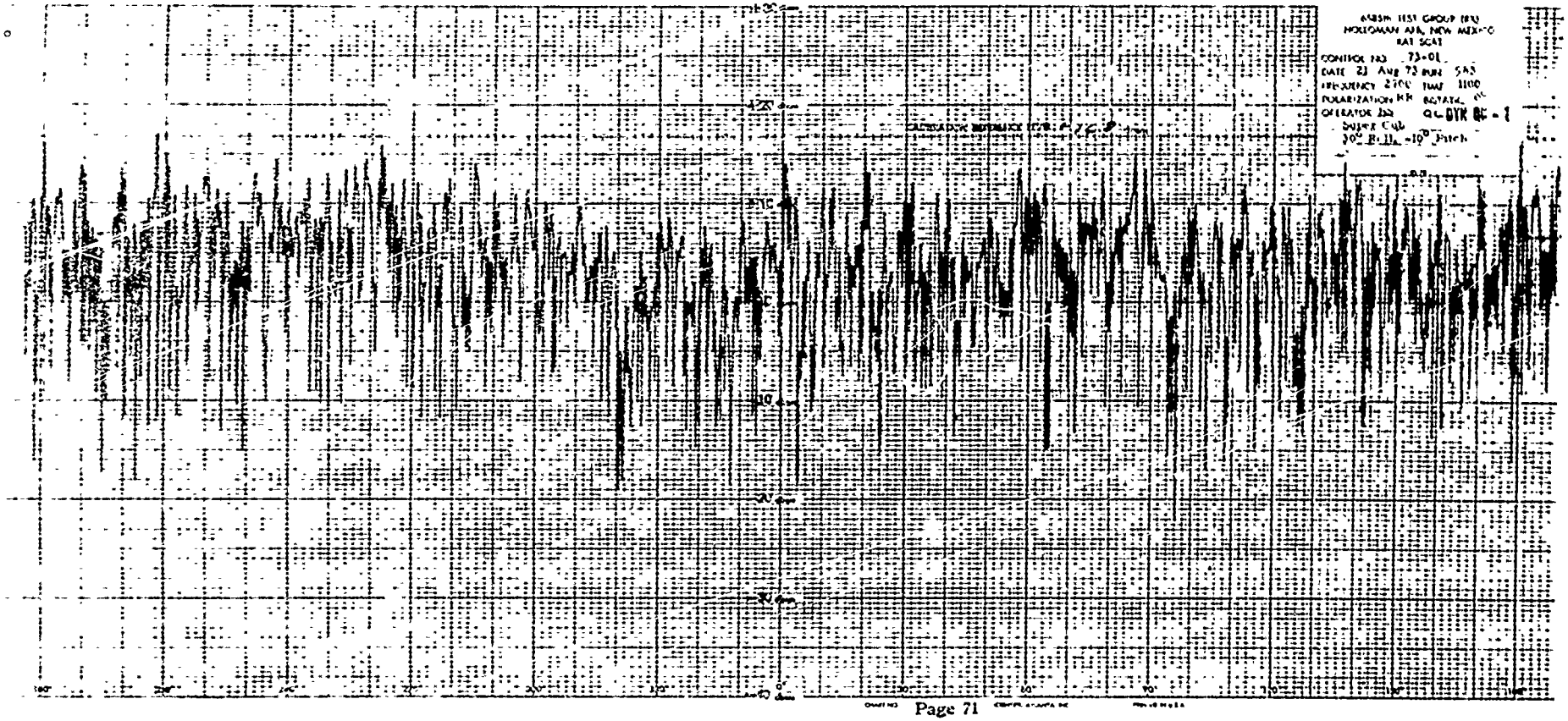

CONTROL NO
DATE 22 Aug 73
FREQUENCY 2700
POLARIZATION
OPERATOR
CALIBRATION REFERENCE LEVEL
+30
+20
+10
-10
-20
-30

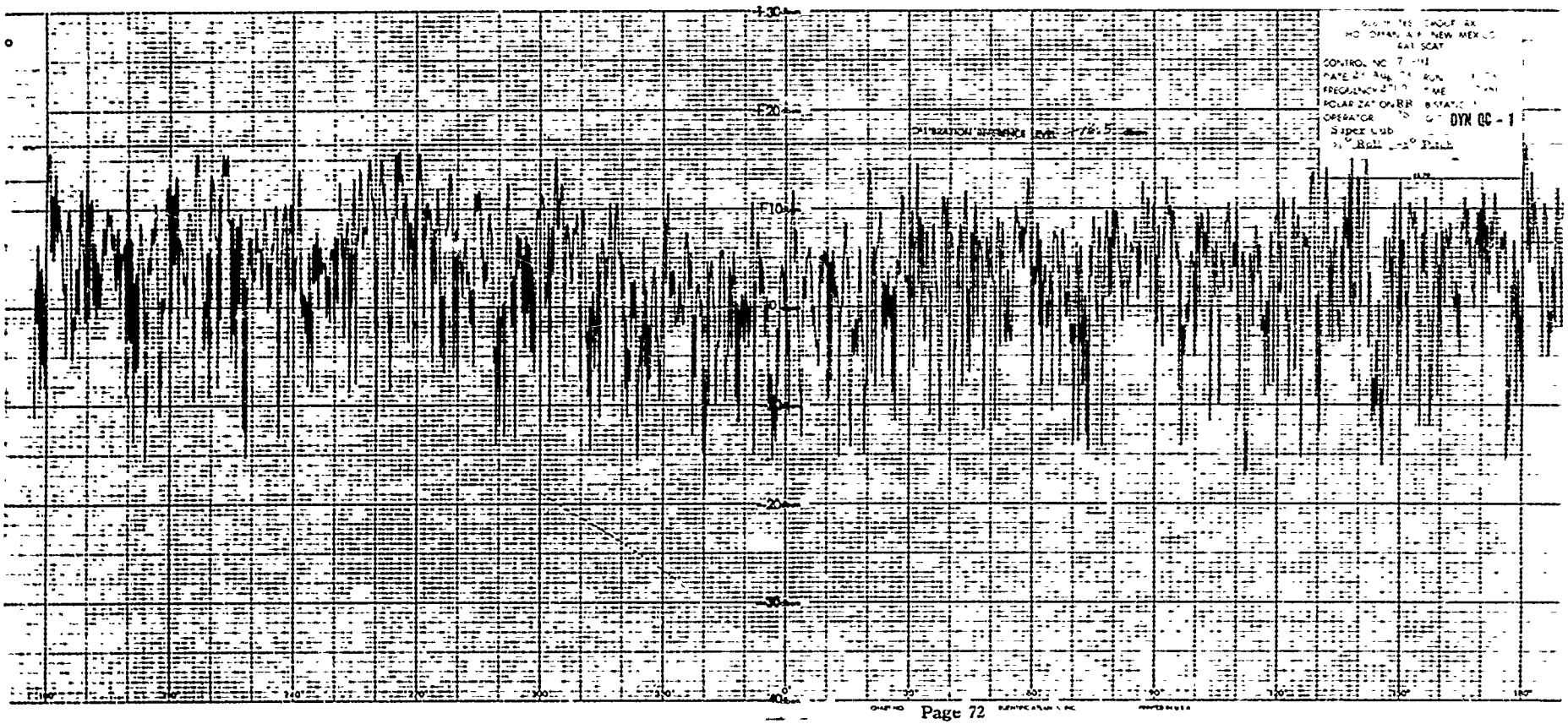

6565th TEST GROUP (RX)
HOLLOMAN AFB, NEW MEXICO
RAT SCAT
CONTROL NO 73-01
DATE 23 Aug 73 RUN 1070
FREQUENCY 2700 TIME 0905
POLARIZATION HR BISTATIC 0°
OPERATOR JS. QC. DYN RC-1
Super Cub
200' Roll +5° Pitch
+30dBsm
+20dBsm
+10dBsm
0dBsm
-10dBsm
-20dBsm
-30dBsm
90°
180°
270°
360°
0°
30°
60°
90°
120°
150°
180°

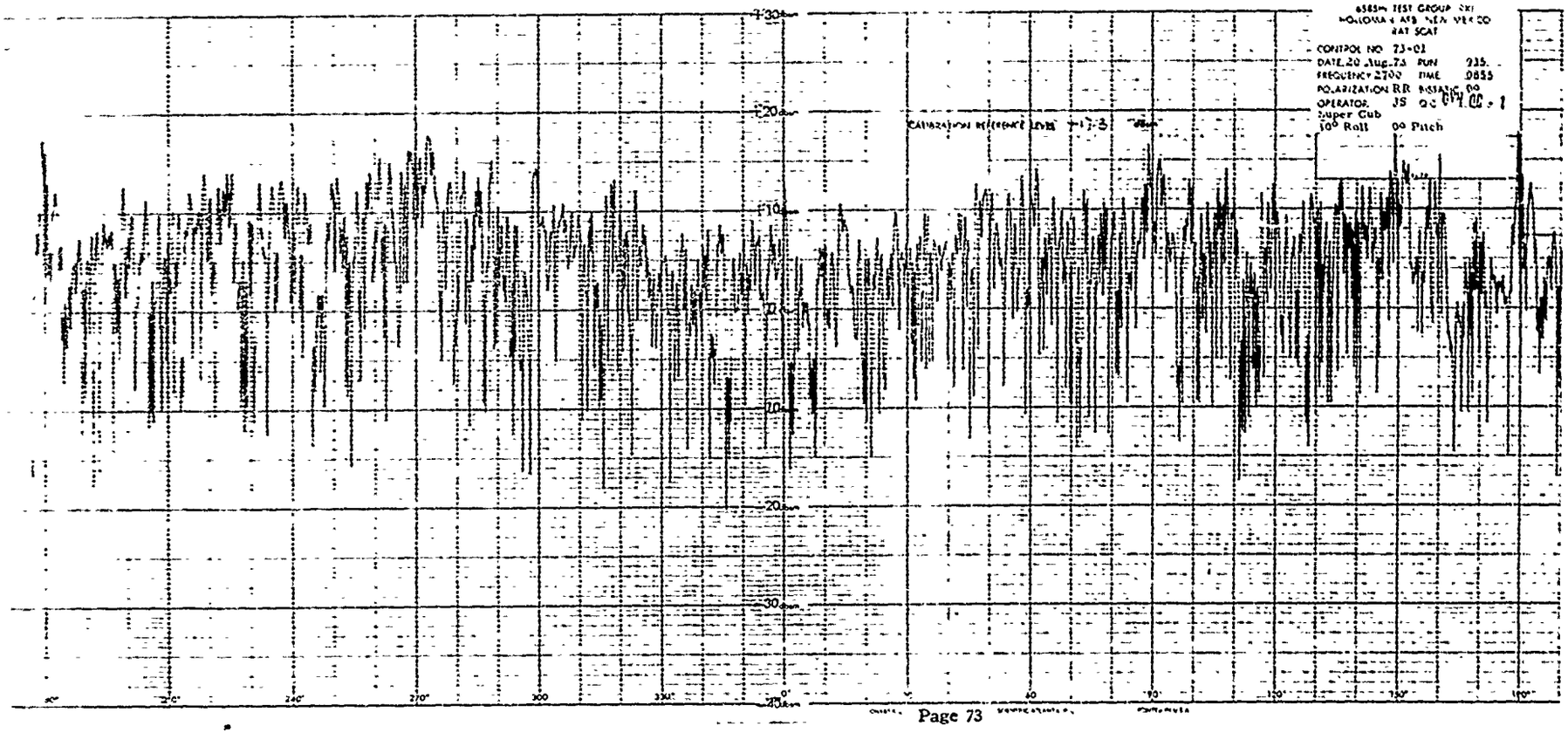


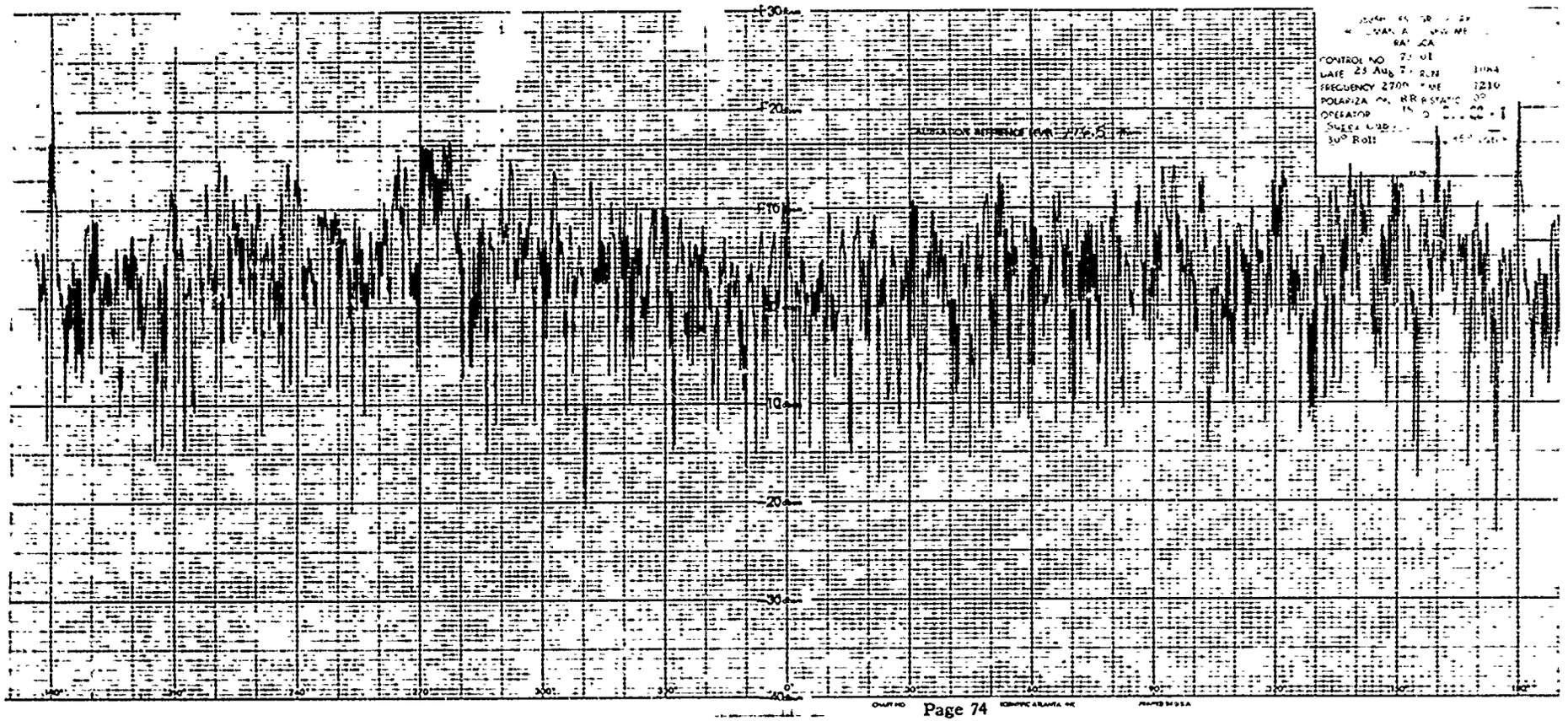

6585th TEST GROUP (RX)
HOLLOMAN AFB NEW MEXICO
RAT SCAT
CONTROL NO 73-01
DATE 23 Aug 73 RUN 1107
FREQUENCY 2700 TIME 1110
POLARIZATION R HORIZ
OPERATOR JS
Super Cub
26° Roll 45° Pitch
-30
-20
-10
-30
-20
-30

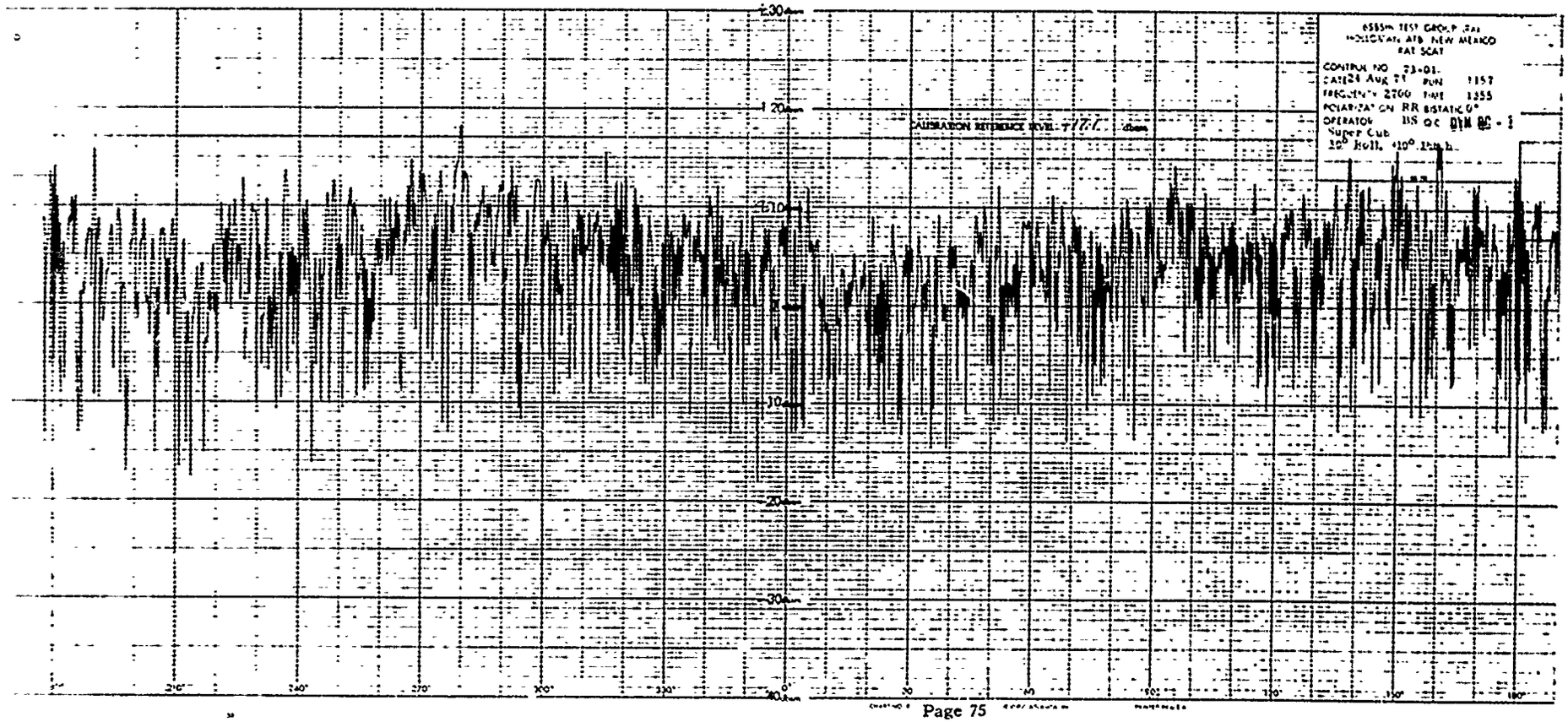

CONTROL NO
DATE
FREQUENCY
OPERATOR
DYN SC - 1
-30
-20
-10
-0
-10
-20
-30

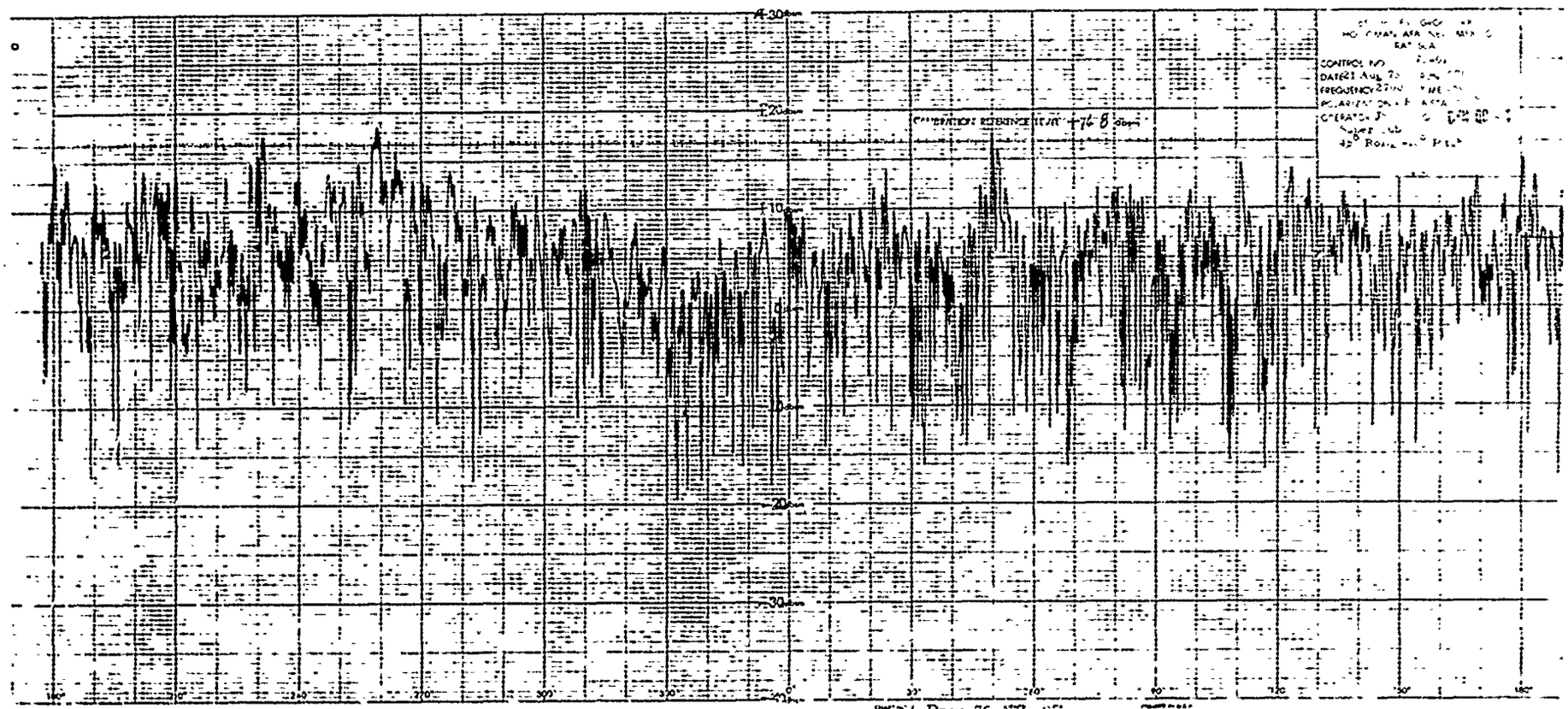

6585th TEST GROUP (RI)
HOLLOMAN AFB, NEW MEXICO
RAT SCAT
CONTROL NO 73-01
DATE 23 Aug 73 RUN 585
FREQUENCY 2700 TIME 1100
POLARIZATION HH ROTATE
OPERATOR JSS CAL DYN RC - 1
Subject Cub
30° Roll, -10° Pitch

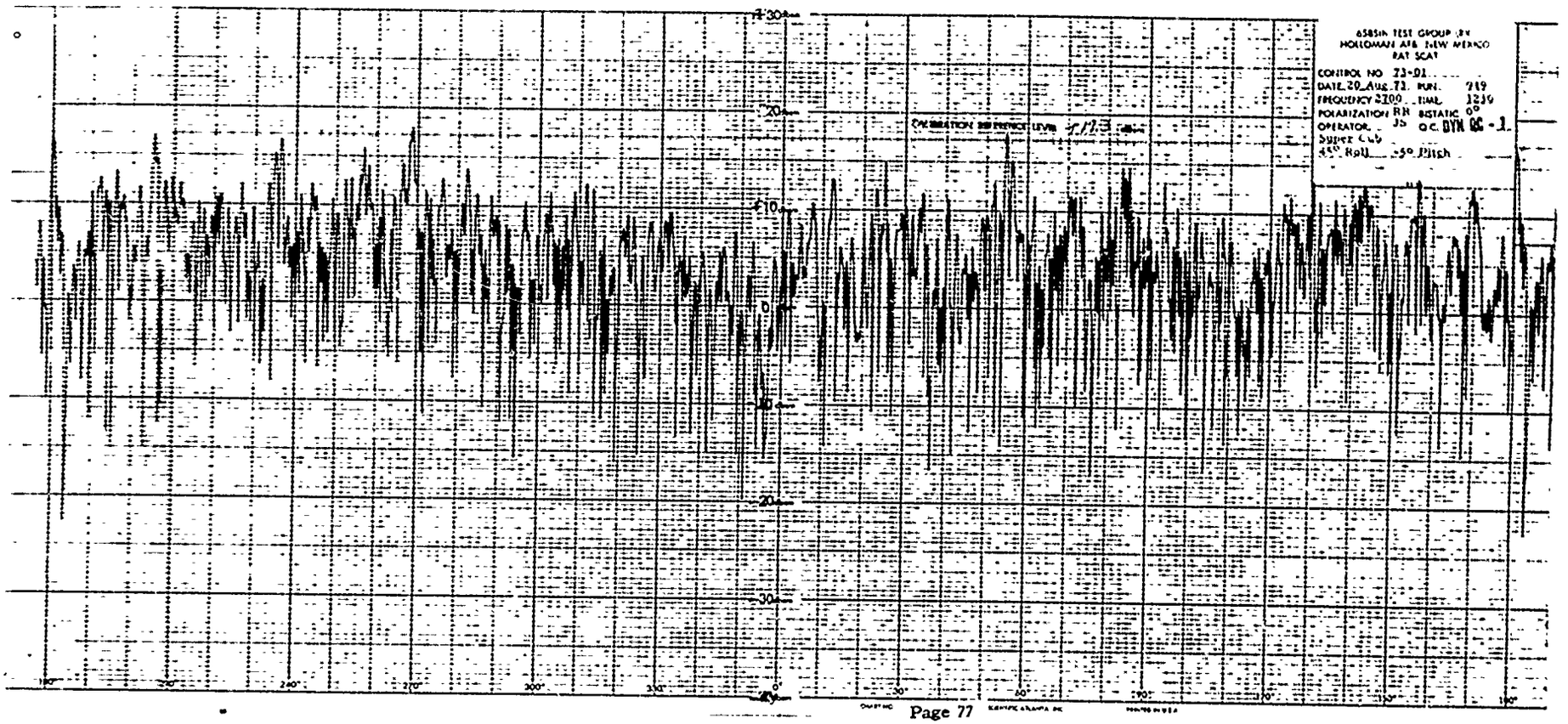

+30
+20
+10
0
-10
-20
-30
DYN QC - 1

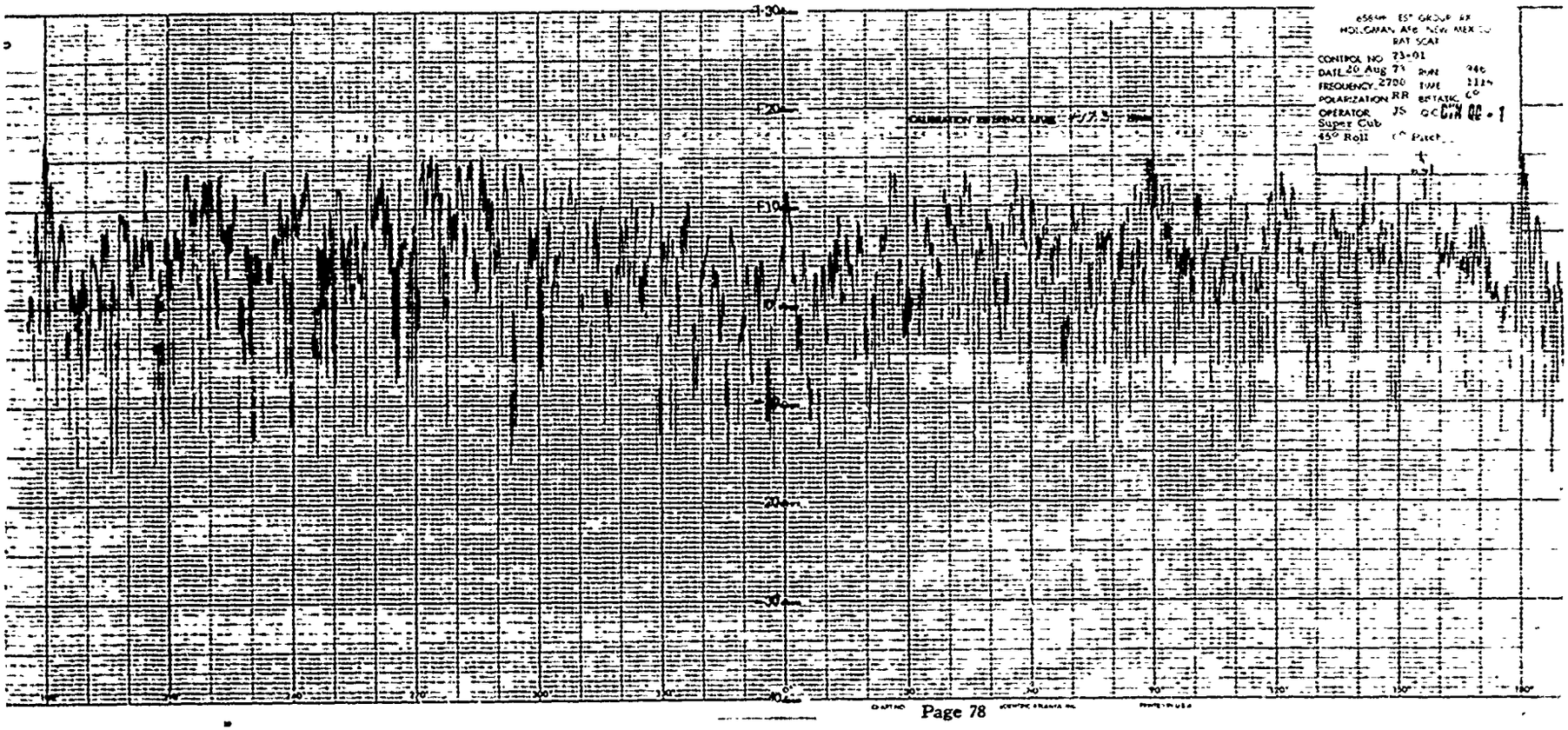

6585th TEST GROUP (RI)
HOLLOMAN AFB NEW MEXICO
RAT SCAT
CONTROL NO 73-01
DATE 20 Aug 73 RUN 235
FREQUENCY 2700 TIME 0855
POLARIZATION RR DISTANCE 00
OPERATOR JS
Super Cub
10° Roll 00 Pitch
CALIBRATION REFERENCE LEVEL +13.5 dBsm
+30dBsm
+20dBsm
+10dBsm
0dBsm
-10dBsm
-20dBsm
-30dBsm
90°
210°
240°
270°
300°
330°
0°
30°
60°
90°
120°
150°
180°

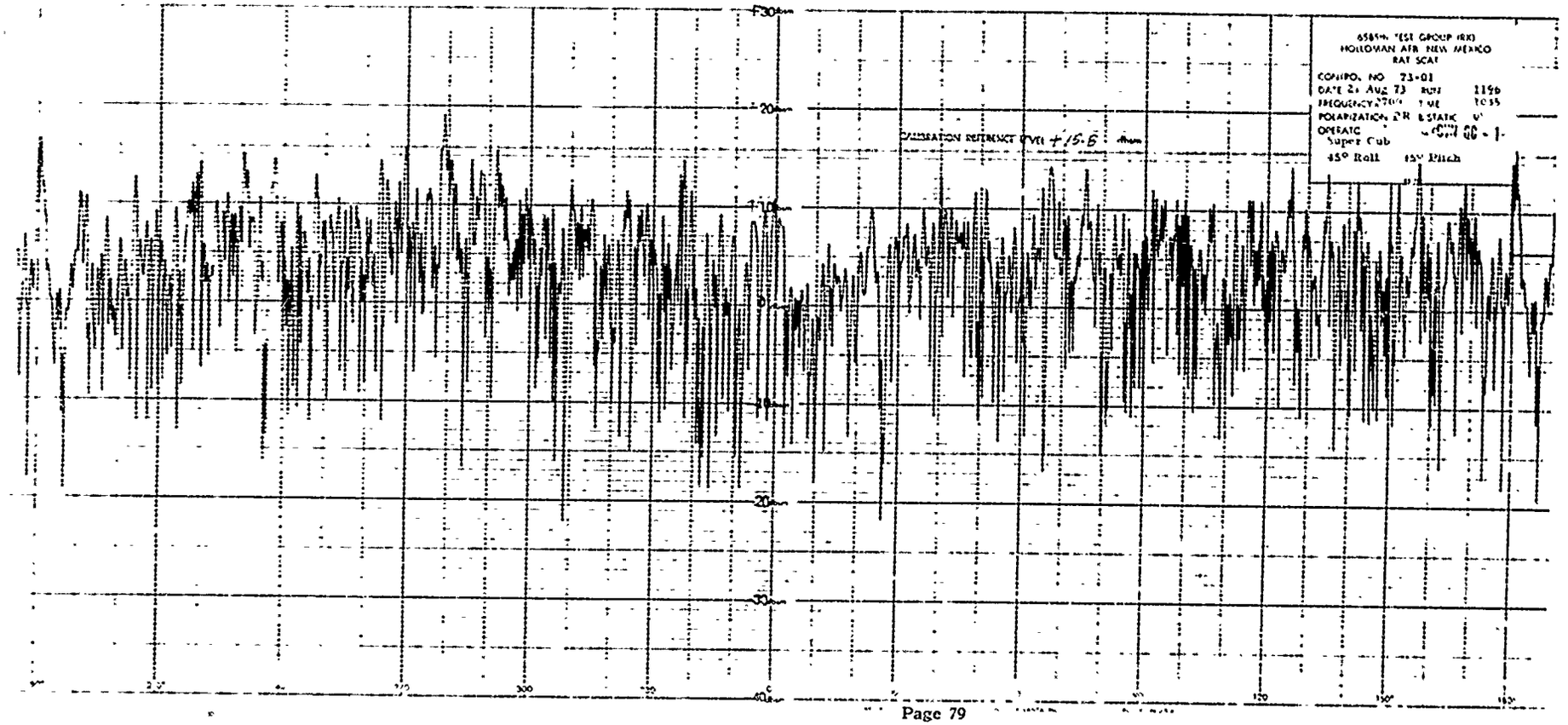

-30dbm
-20dbm
-10dbm
0dbm
10dbm
20dbm
30dbm
CONTROL NO
DATE 23 Aug
FREQUENCY 2700
POLARIZA
OPERATOR
30° Roll
180°
240°
270°
300°
330°
0°
30°
60°
90°
120°
150°
180°

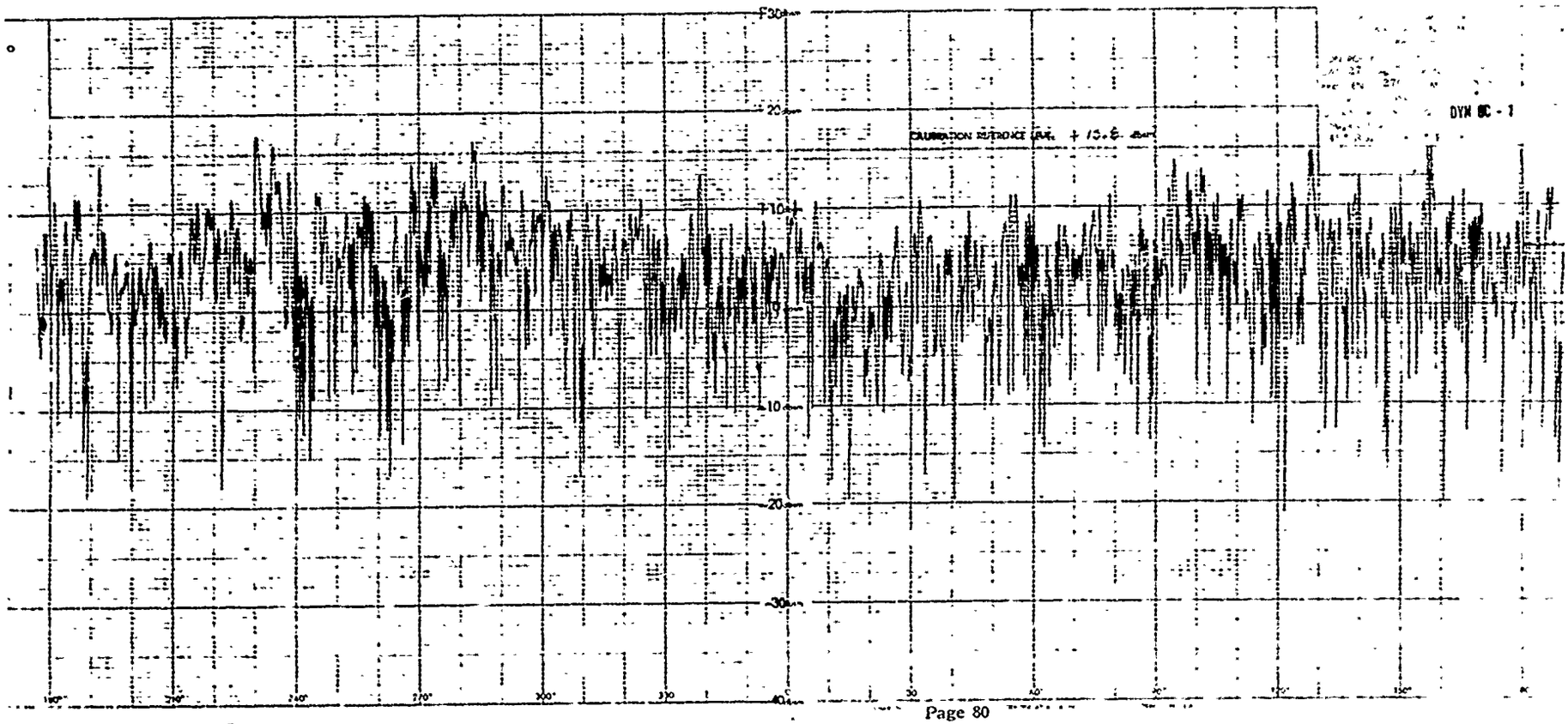

6585m TEST GROUP (RA
HOLLOMAN AFB NEW MEXICO
RAT SCAT
CONTROL NO 73-01-
DATE 24 Aug 71 RUN 1157
FREQUENCY 2700 TIME 1355
POLARIZATION RR BISTATIC 0°
OPERATOR DS QC DIM 80 - 1
Super Cub
20° Roll, +10° Pitch
CALIBRATION REFERENCE LEVEL
-30
-20
-10
0
10
20
30
240°
270°
300°
330°
0°
30°
60°
90°
120°
150°
180°

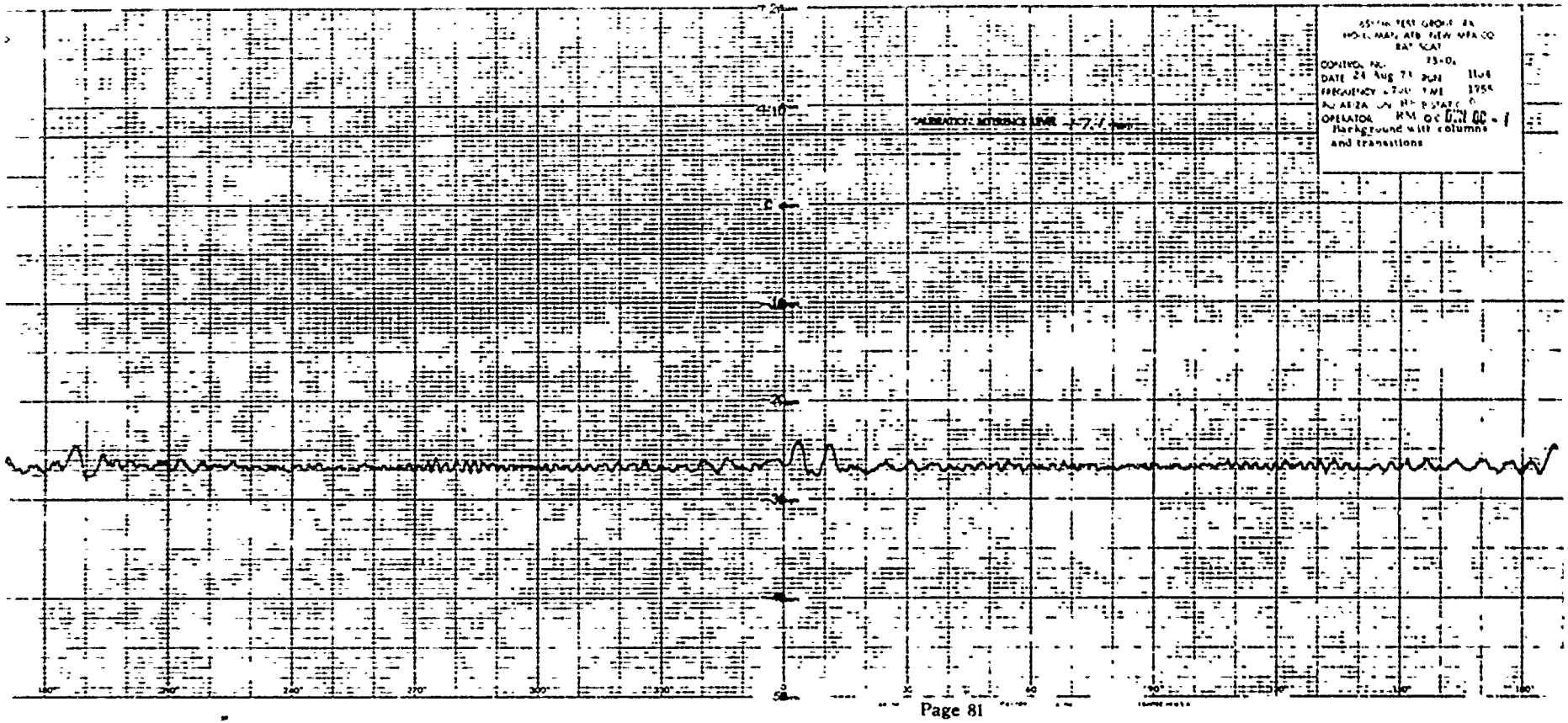


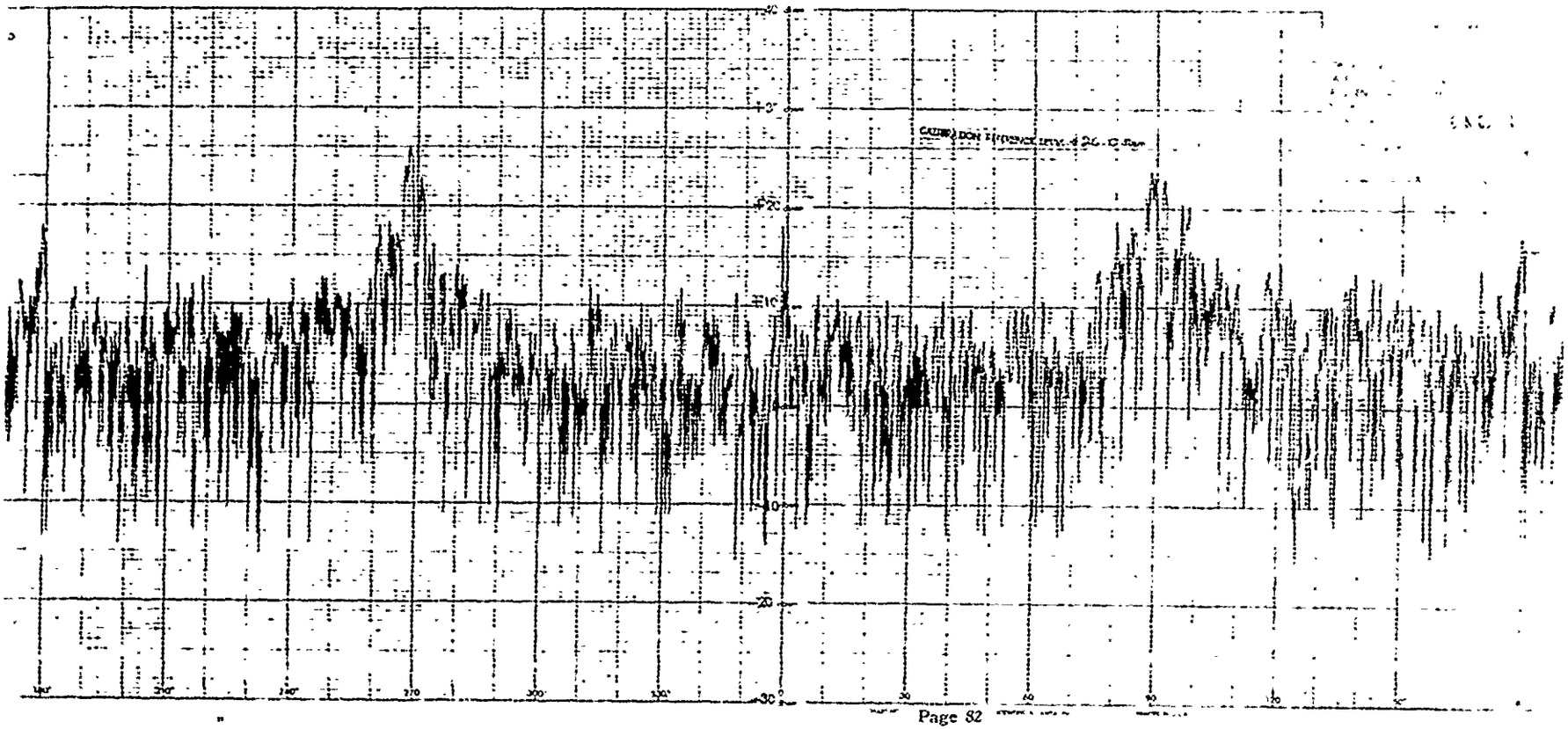

6585th TEST GROUP (R)
HOLLOMAN AFB, NEW MEXICO
RAT SCAT
CONTROL NO 73-01
DATE 20 Aug 73 RUN 719
FREQUENCY 2700 TIME 1339
POLARIZATION RR BISTATIC 0°
OPERATOR JS Q.C. DYN QC - 1
Super Cub
45° Roll -5° Pitch
CALIBRATION REFERENCE LEVEL
+30
+20
+10
0
-10
-20
-30

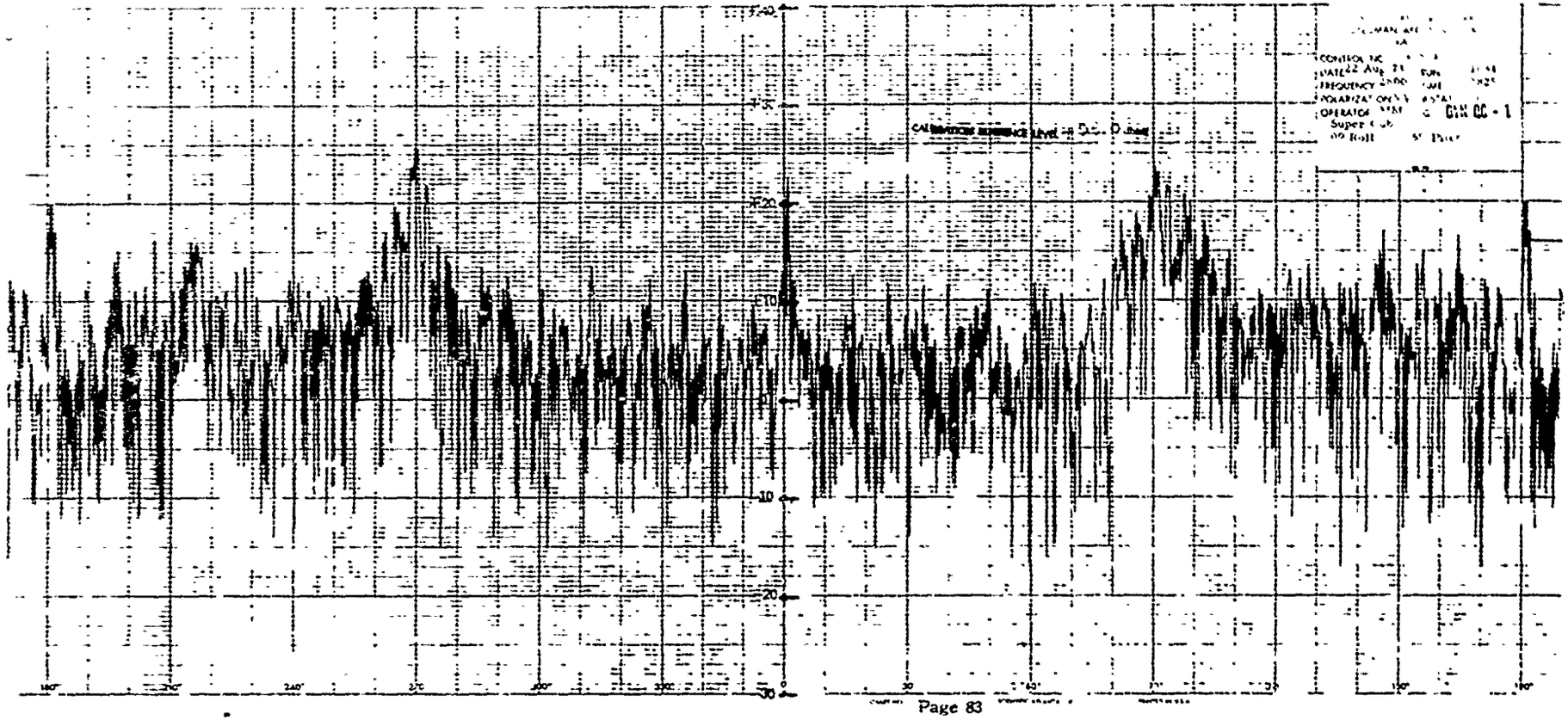

656th ES GROUP AR
HOLLOMAN AFB NEW MEXICO
RAT SCAT
CONTROL NO 73-01
DATE 20 Aug 73
FREQUENCY 2700
POLARIZATION RR
OPERATOR JS
Super Cub
45° Roll
CALIBRATION REFERENCE LINE
+30
+20
+10
0
-10
-20
-30
-40

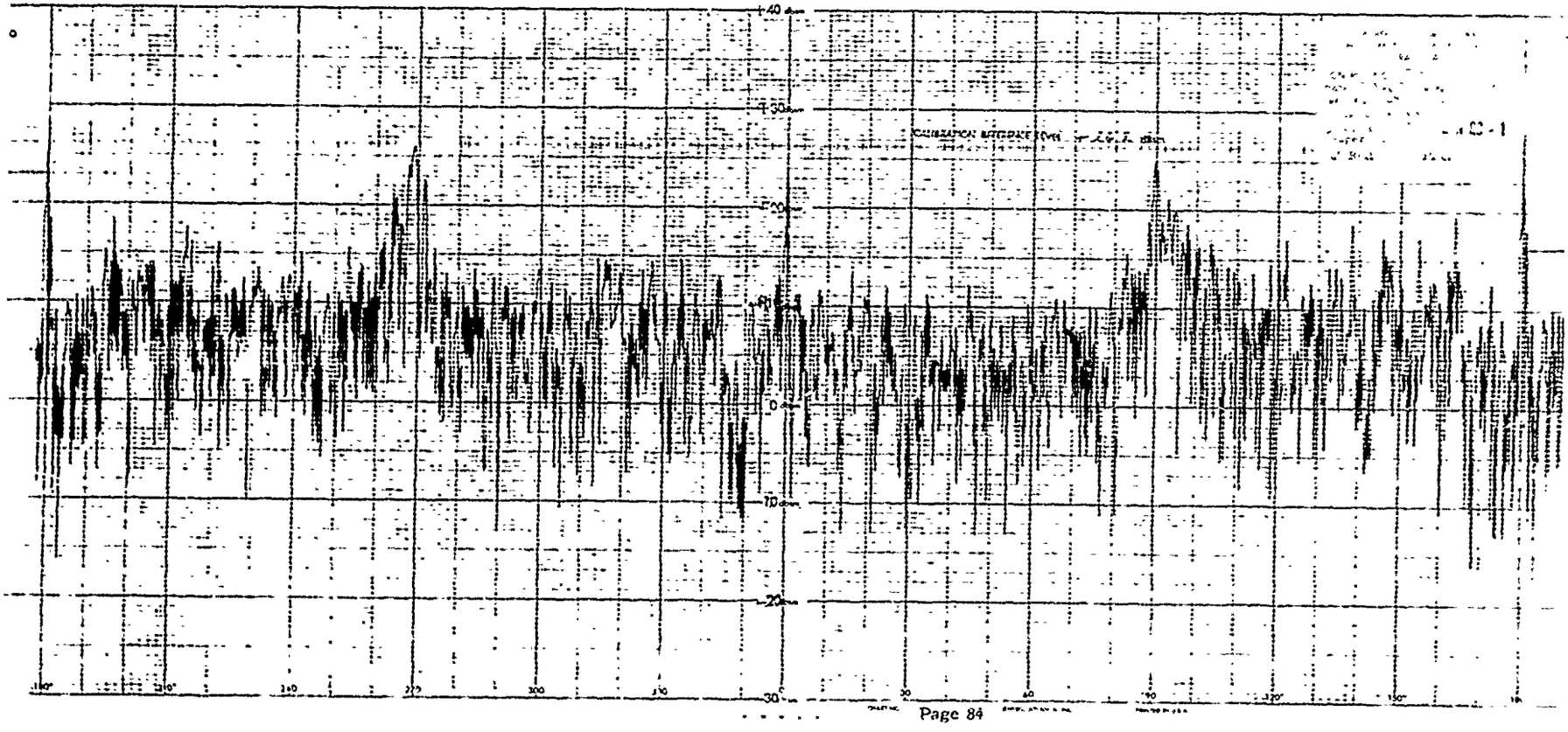

6585th TEST GROUP (RH)
HOLLOMAN AFB NEW MEXICO
RAT SCAT
COMPO. NO 73-01
DATE 24 Aug 73 RUN 1156
FREQUENCY 2700 TIME 1055
POLARIZATION VR & STATIC V
OPERATC
Super Cub
45° Roll 45° Pitch
CALIBRATION REFERENCE LEVEL +15.6 dBsm
+30
+20
+10
0
-10
-20
-30
300
60
120
150
180

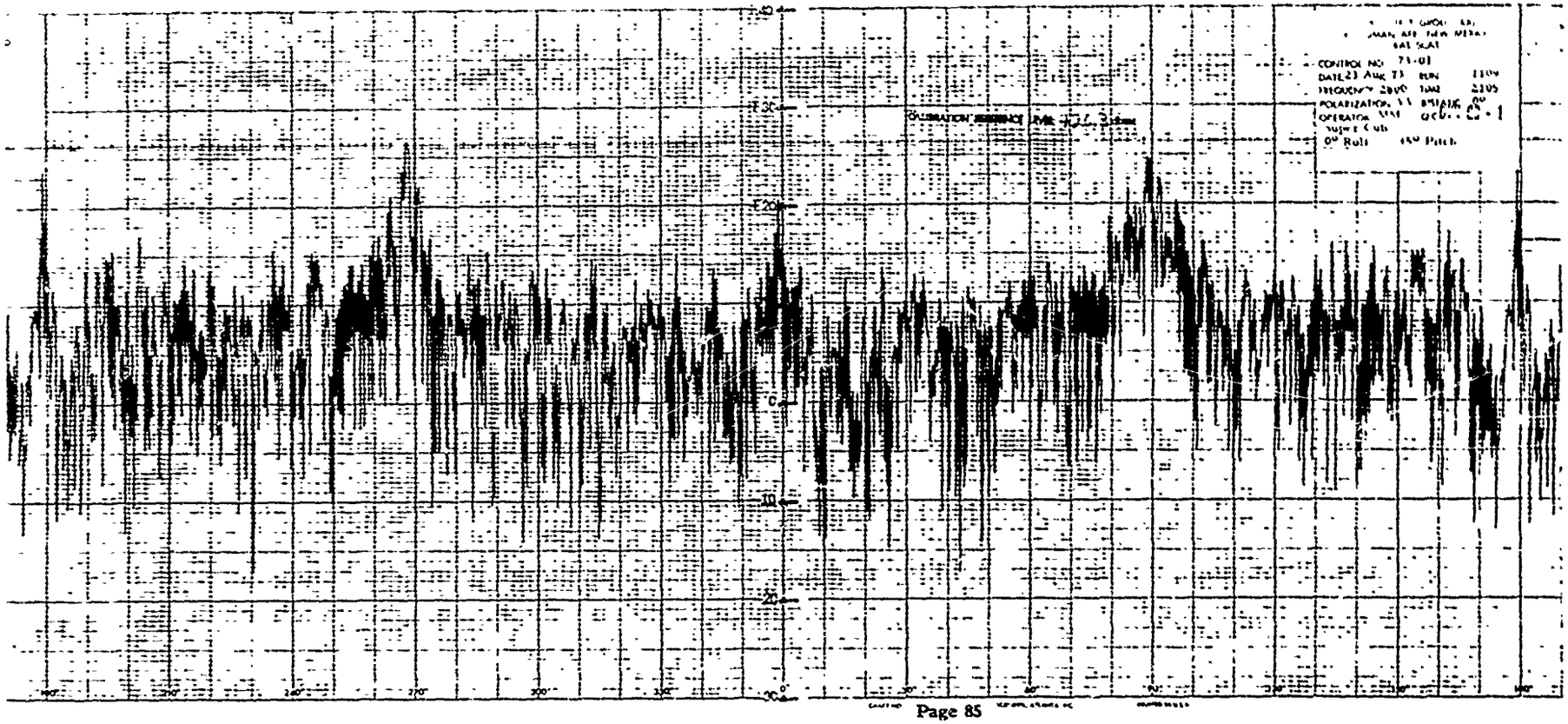

DYN BC - 1

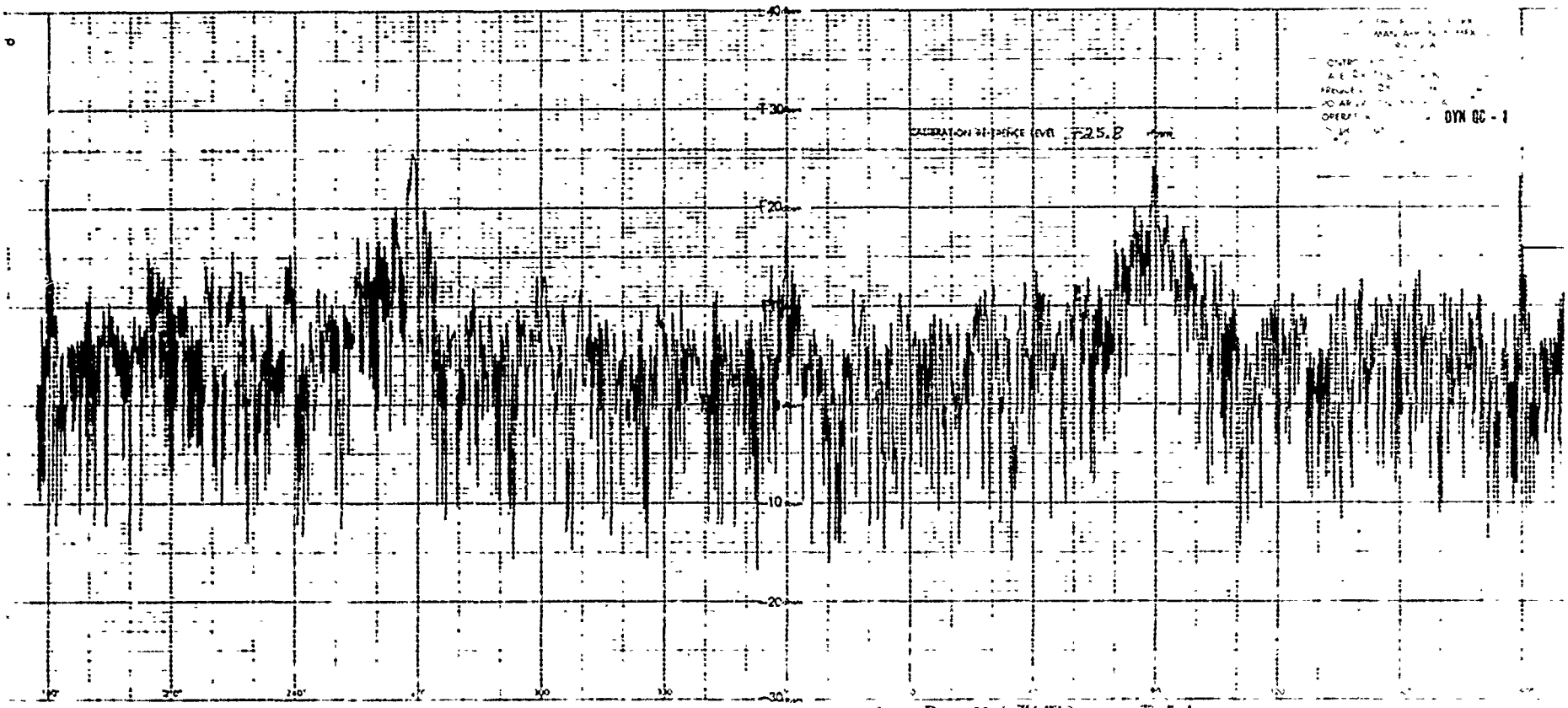

Background with columns and transitions

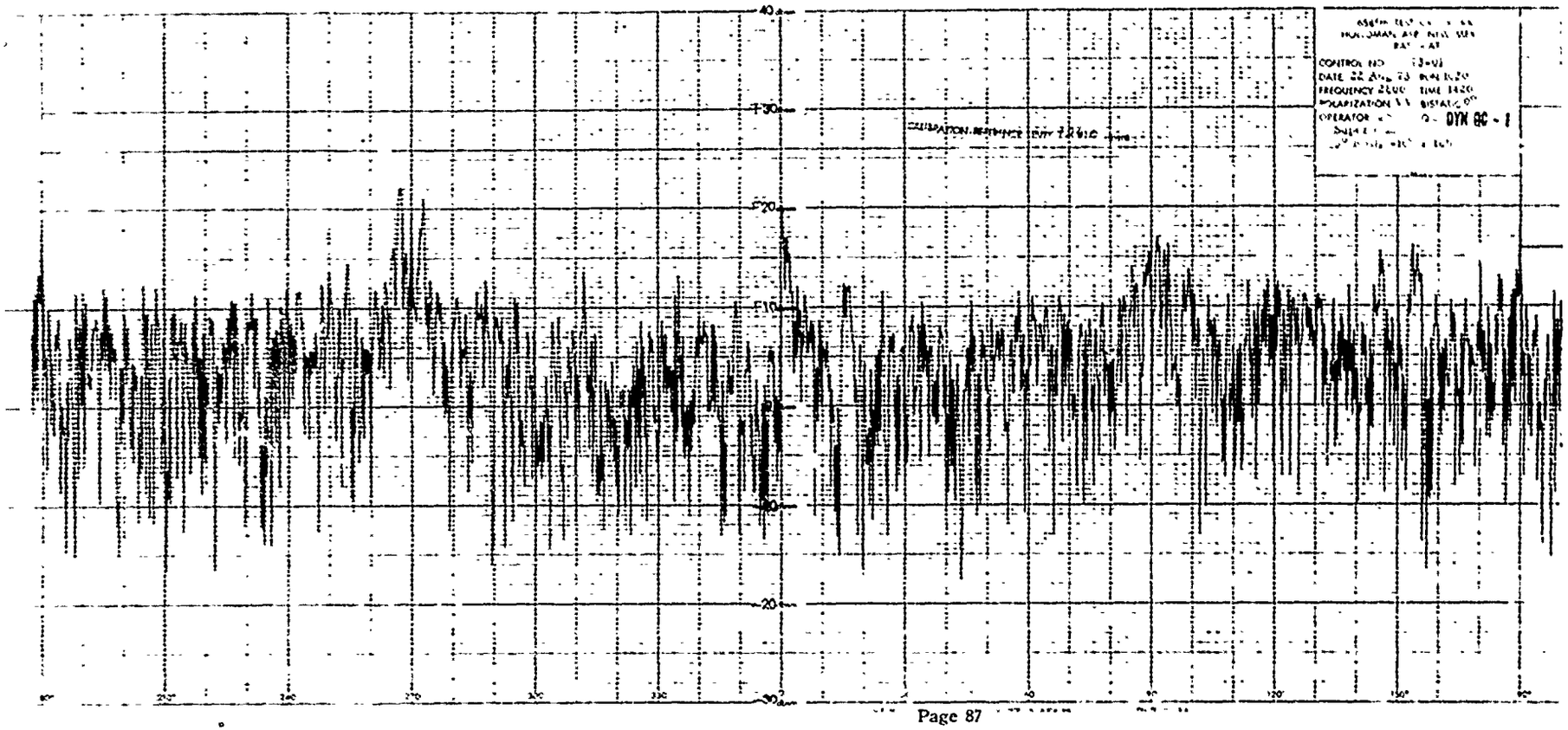


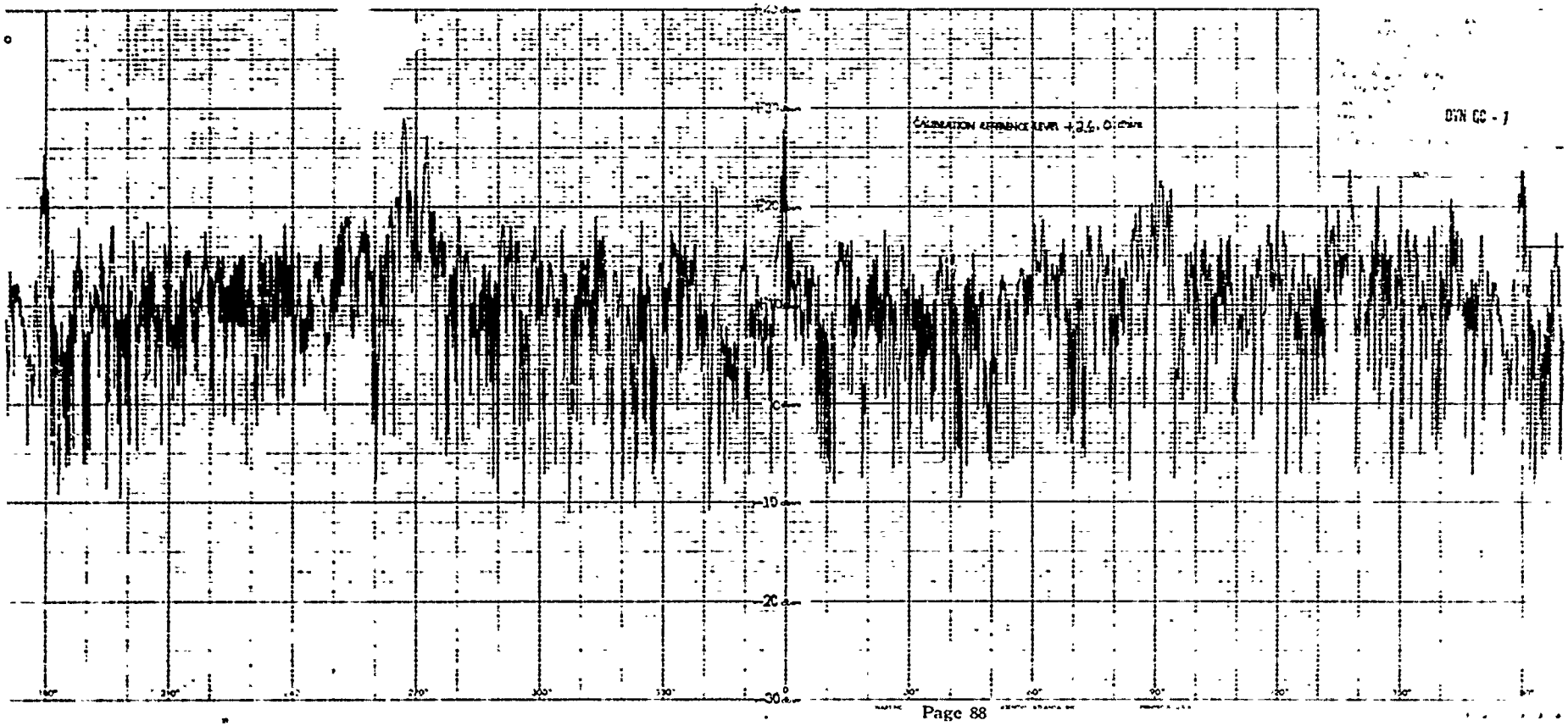


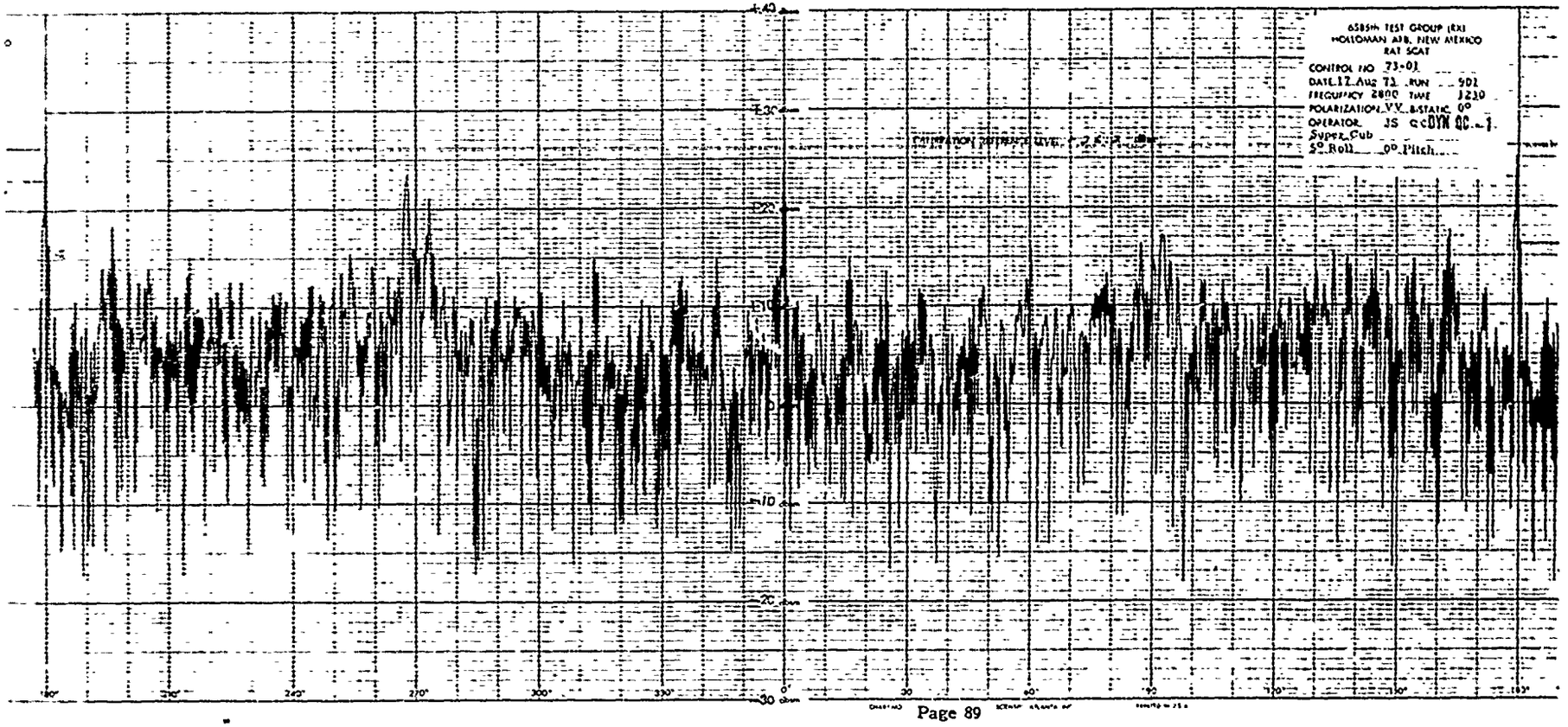


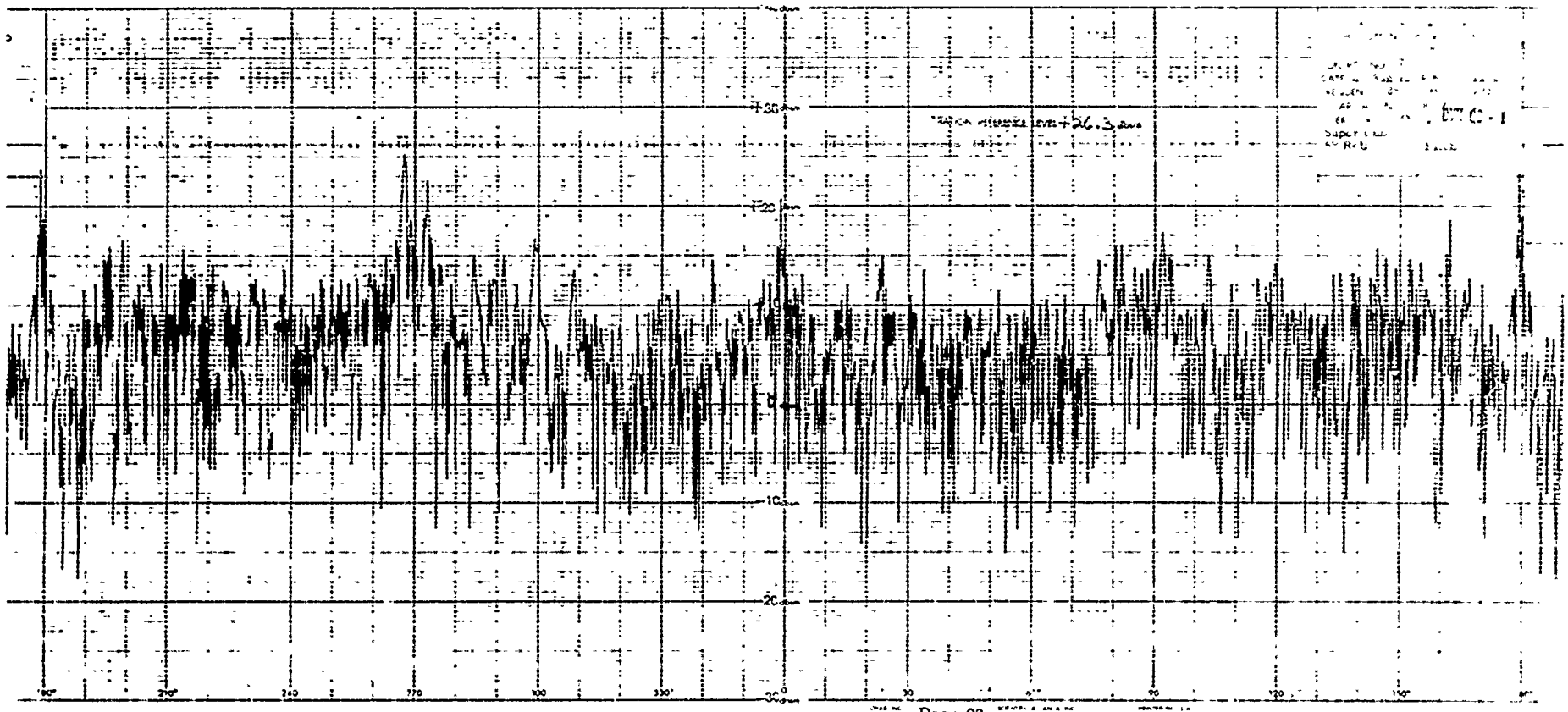

CONTROL NO. 73-01
DATE 23 Aug 73
FREQUENCY 2800
TIME 2305
0° Roll

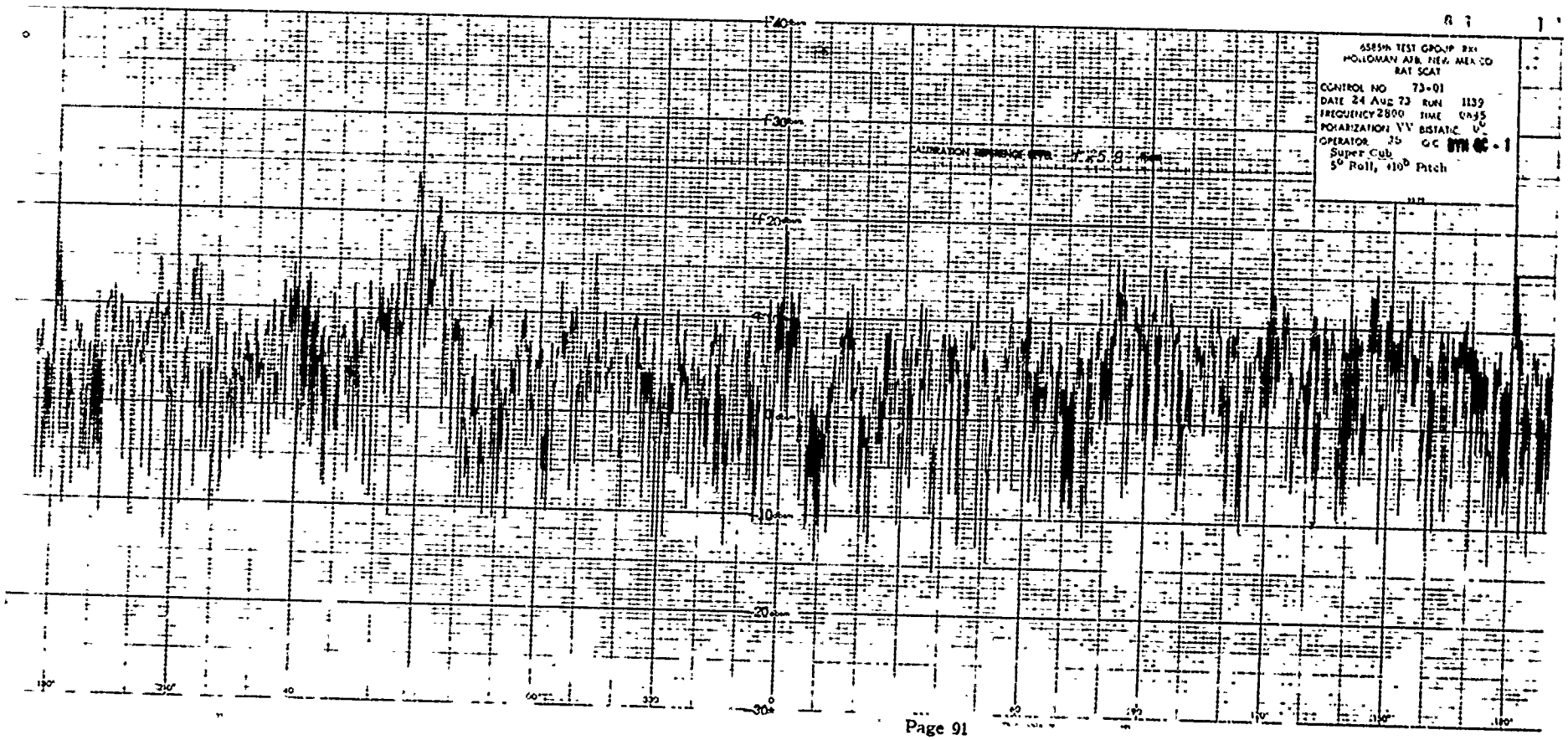

-40
-30
-20
-10
0
10
20
30
DYN GC - 1

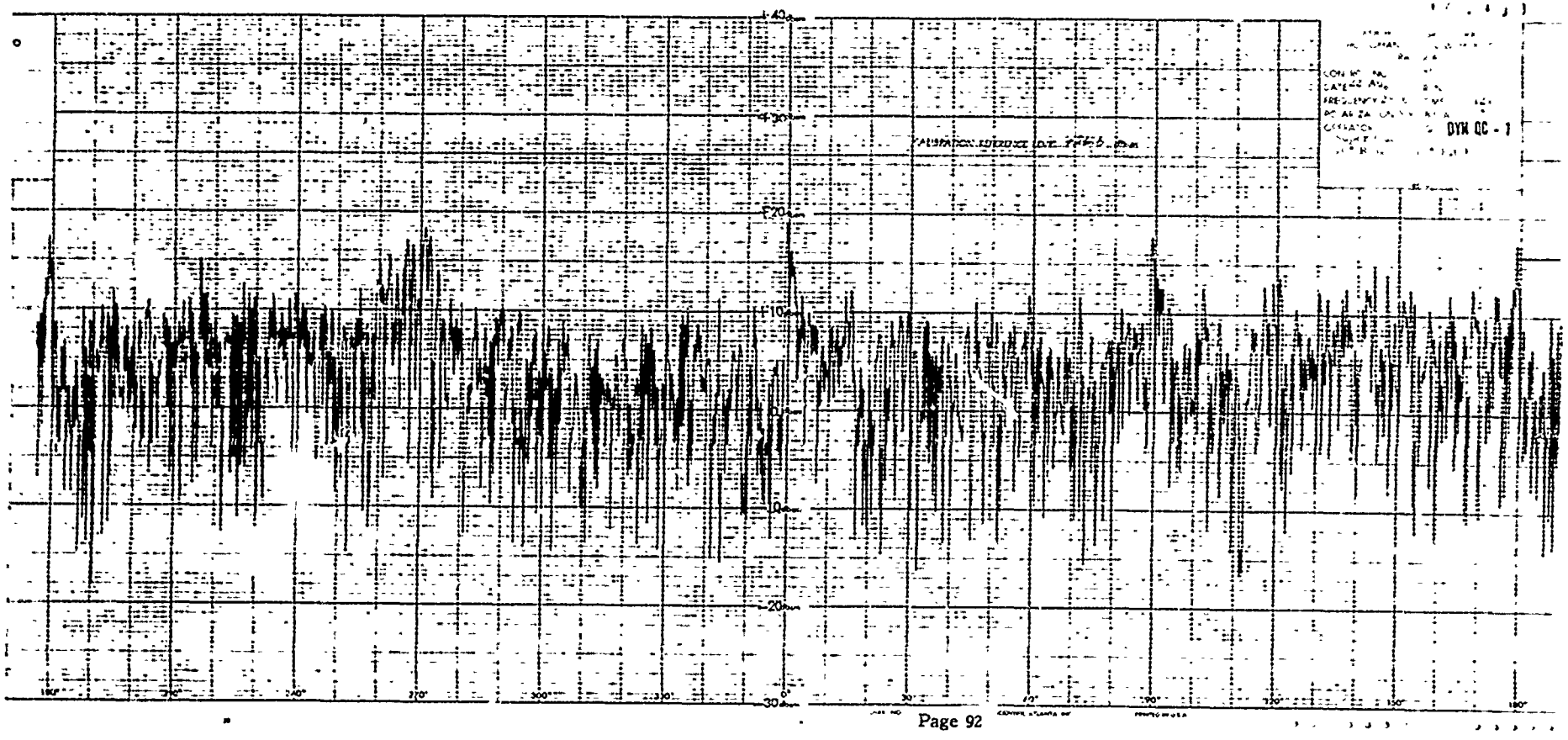

40
30
20
10
0
10
20
30
DYN RC - 1

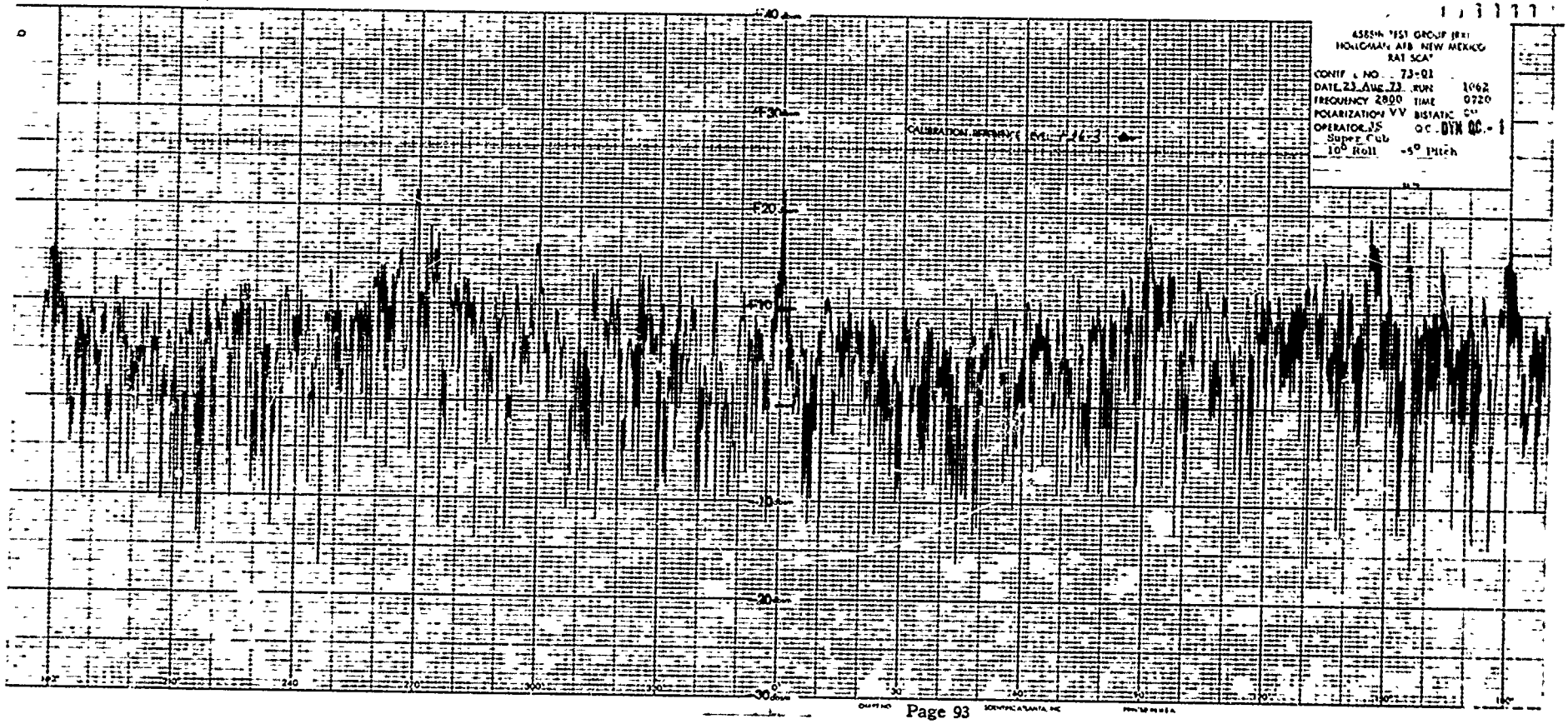

CH CC - 1
10
0
-10
-20
-30

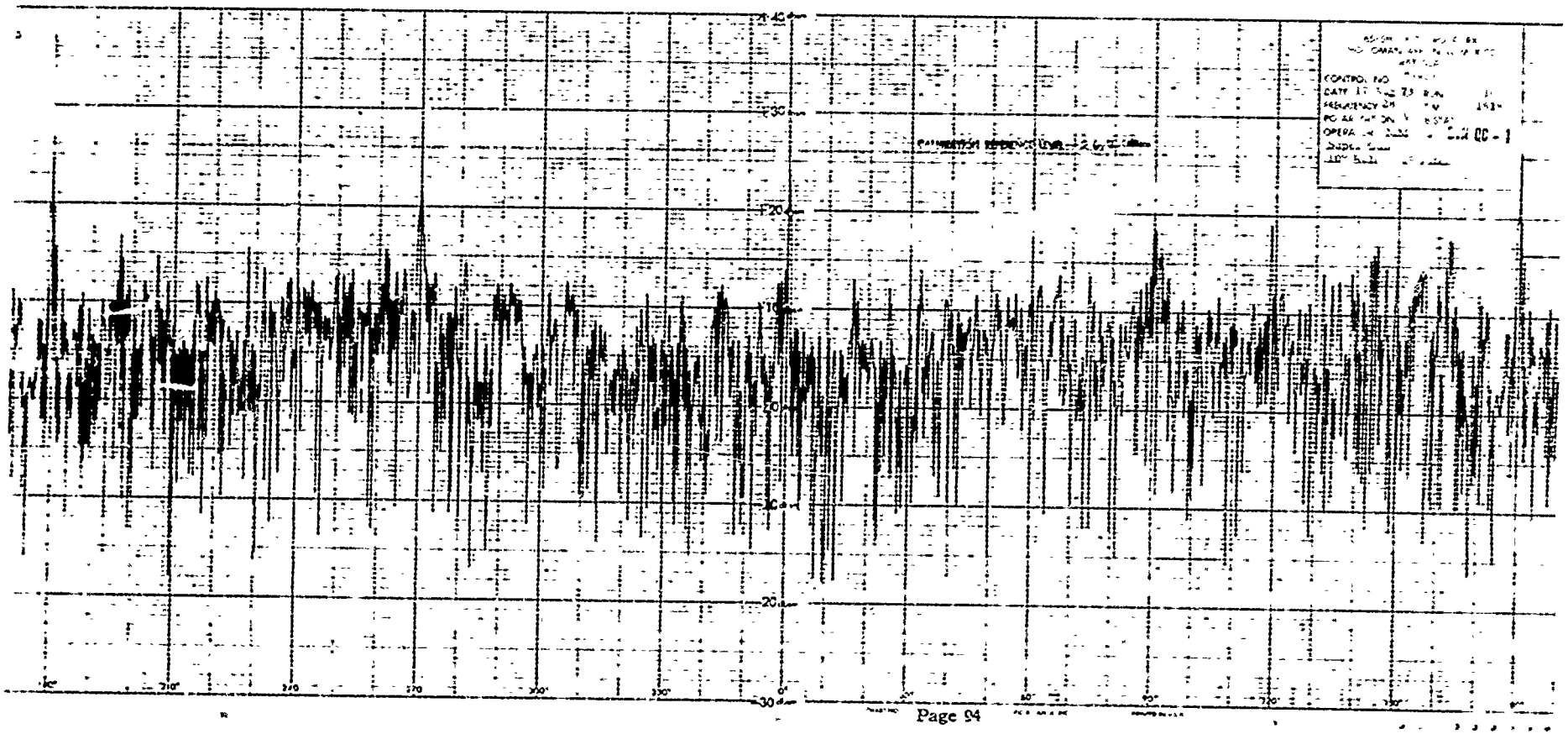

6585th TEST GROUP (RX)
HOLLOMAN AFB, NEW MEXICO
RAT SCAT
CONTROL NO 73-01
DATE 17 Aug 73 RUN 901
FREQUENCY 2800 TIME 1230
POLARIZATION VV BISTATIC 0°
OPERATOR JS CODYN QC-1
Super Cub
5° Roll 0° Pitch
+40
+30
+20
+10
0
-10
-20
-30 dbsm
180°
210°
240°
270°
300°
330°
0°
30
60°
90
120°
150°
180°

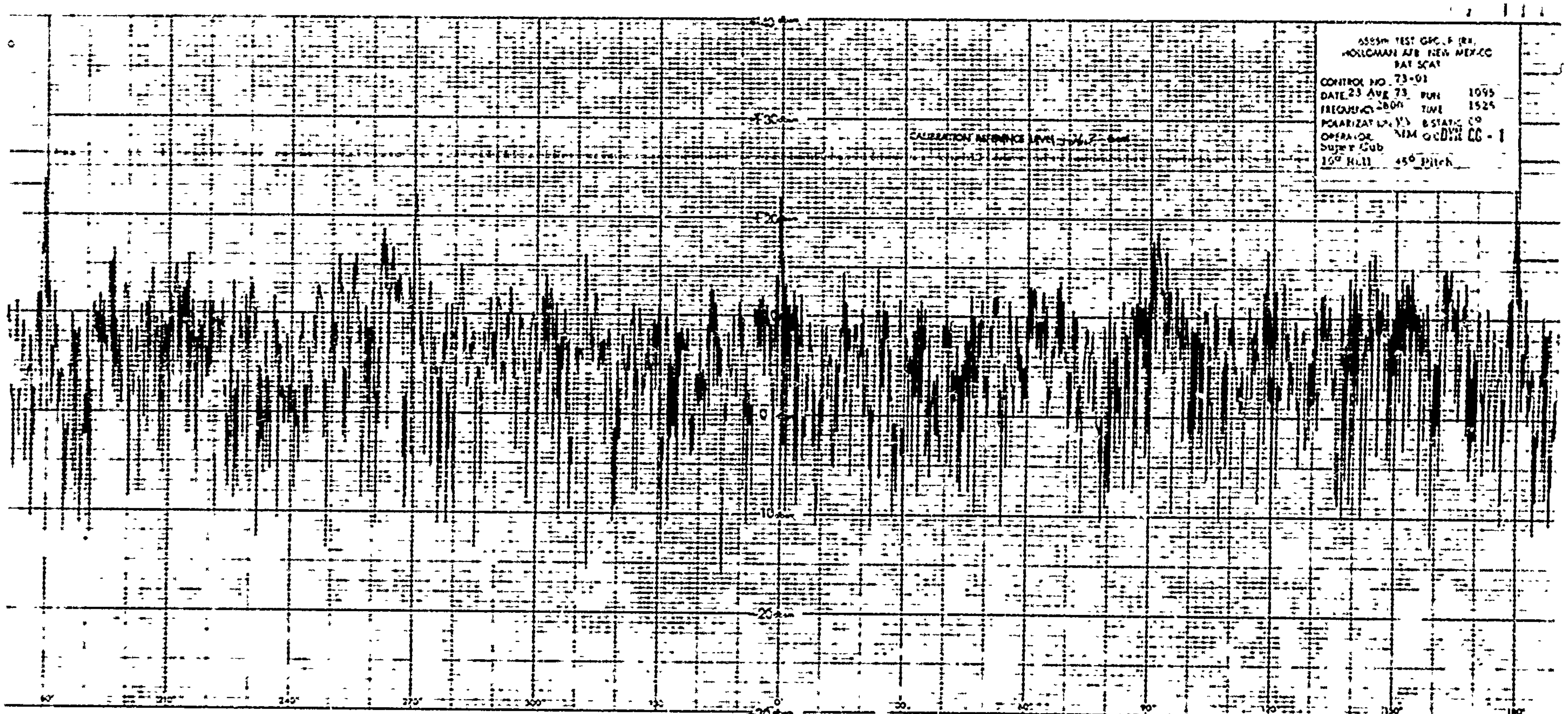


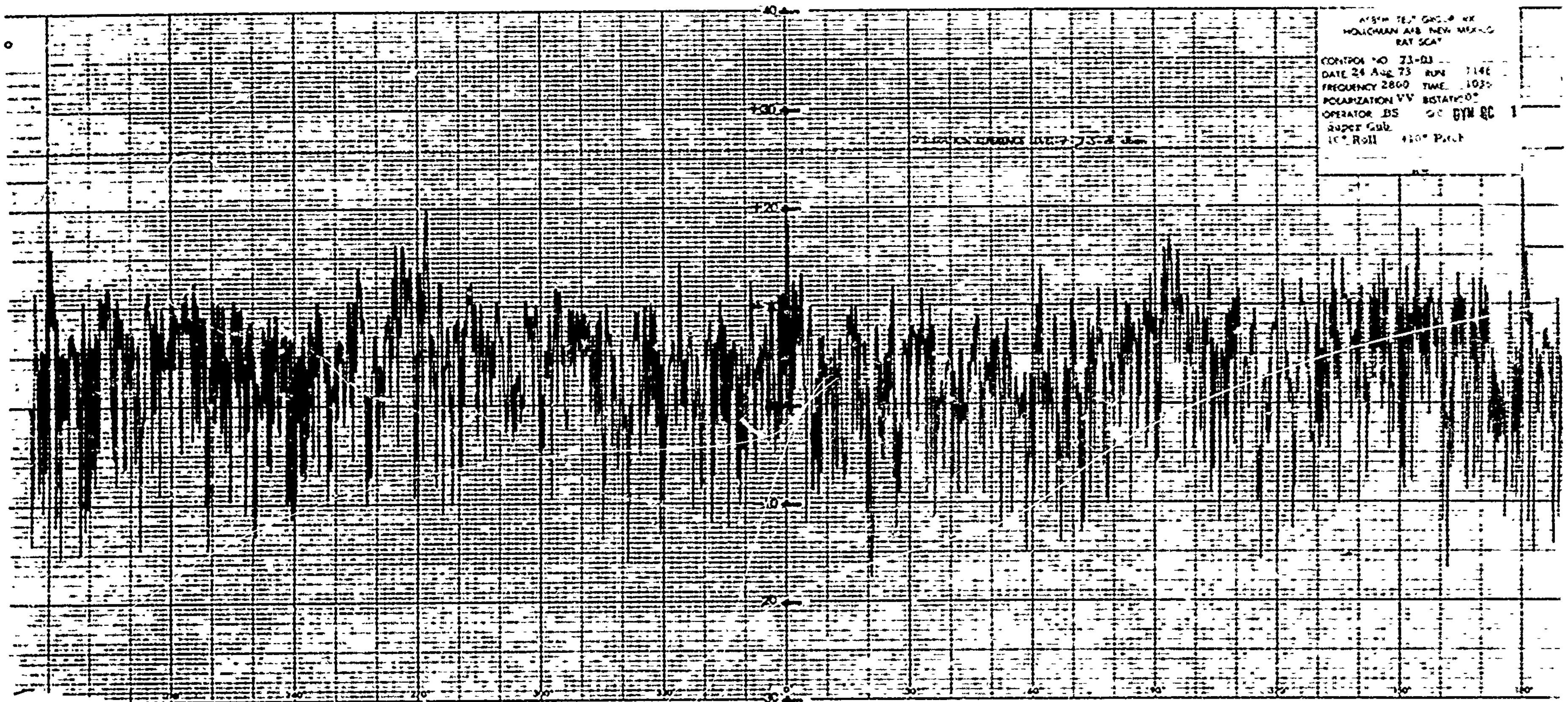

6585th TEST GROUP RH
HOLLOMAN AFB, NEW MEXICO
RAT SCAT
CONTROL NO 73-01
DATE 24 Aug 73 RUN 1139
FREQUENCY 2800 TIME 0945
POLARIZATION VV BISTATIC 0°
OPERATOR JS QC
Super Cub
5° Roll, 410° Pitch
ALTERNATION REFERENCE LEVEL
40
30
20
10
0
-10
-20
-30

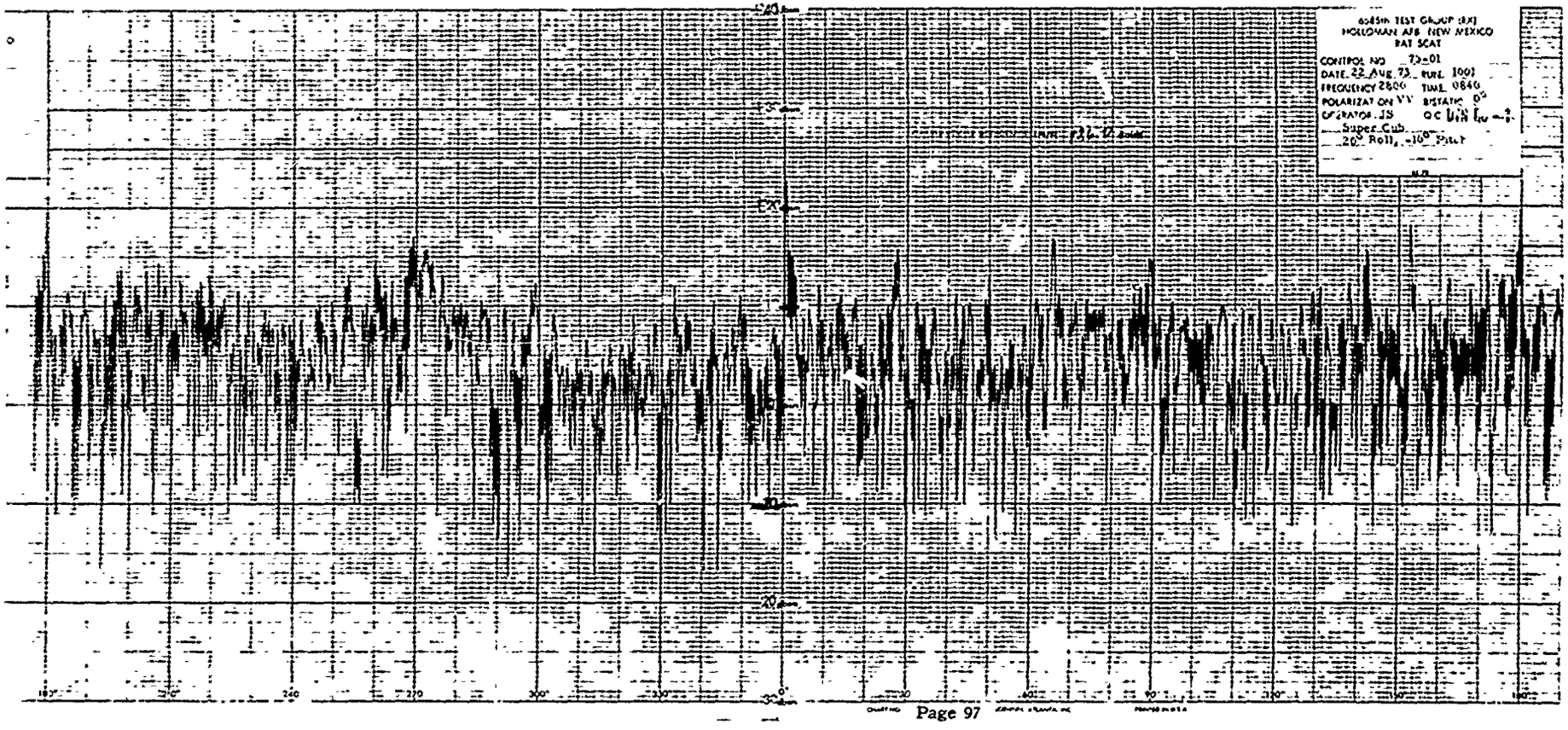

DYN QC - 1

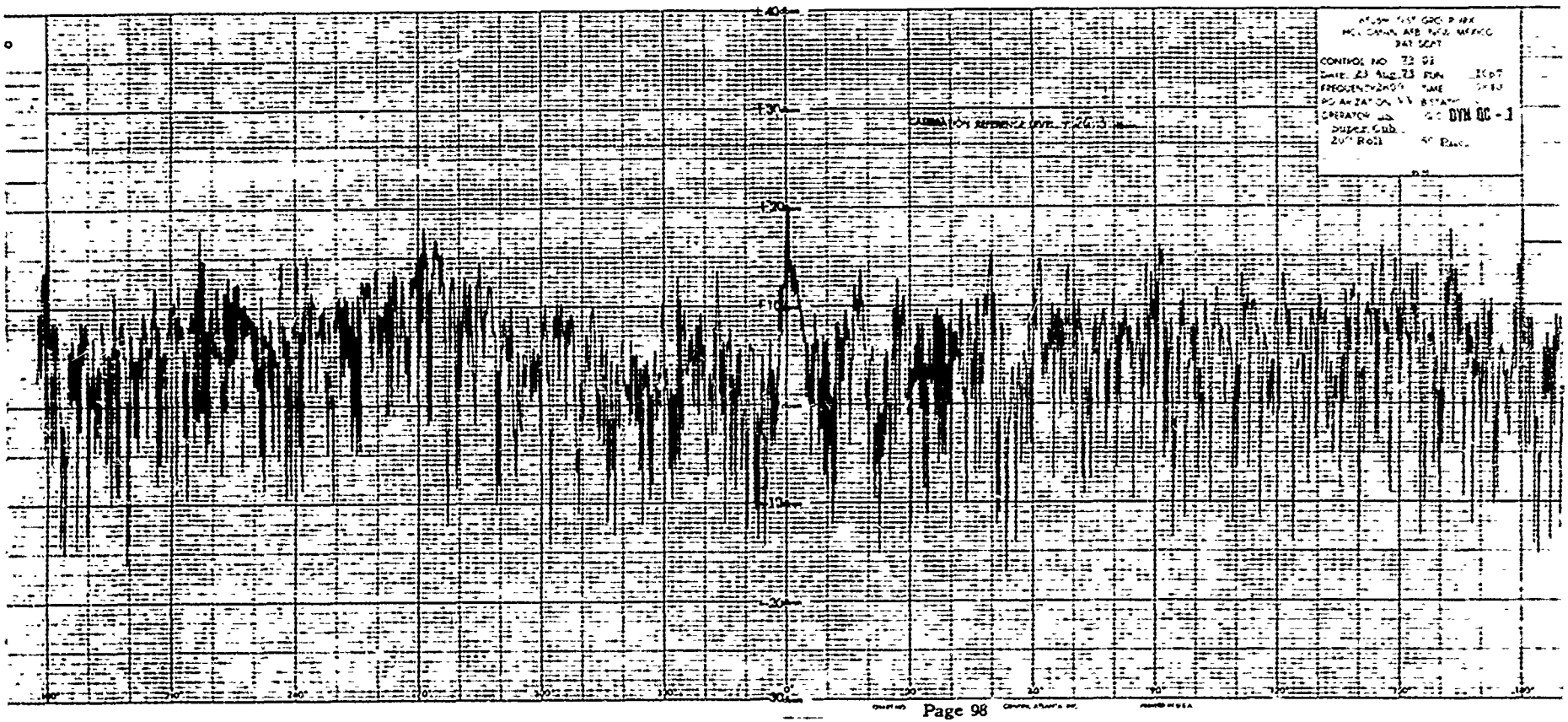

4585th TEST GROUP (RT)
HOLLOMAN AFB NEW MEXICO
RAT SCAT
CONFIG NO. 73-01
DATE 23 Aug 73 RUN 1062
FREQUENCY 2800 TIME 0720
POLARIZATION VV BISTATIC CW
OPERATOR JS QC DYN QC - 1
Super Cub
10° Roll -5° Pitch
CALIBRATION SERIES V (61 - 14.3 dbsm
+40
+30
+20
+10
0
-10
-20
-30

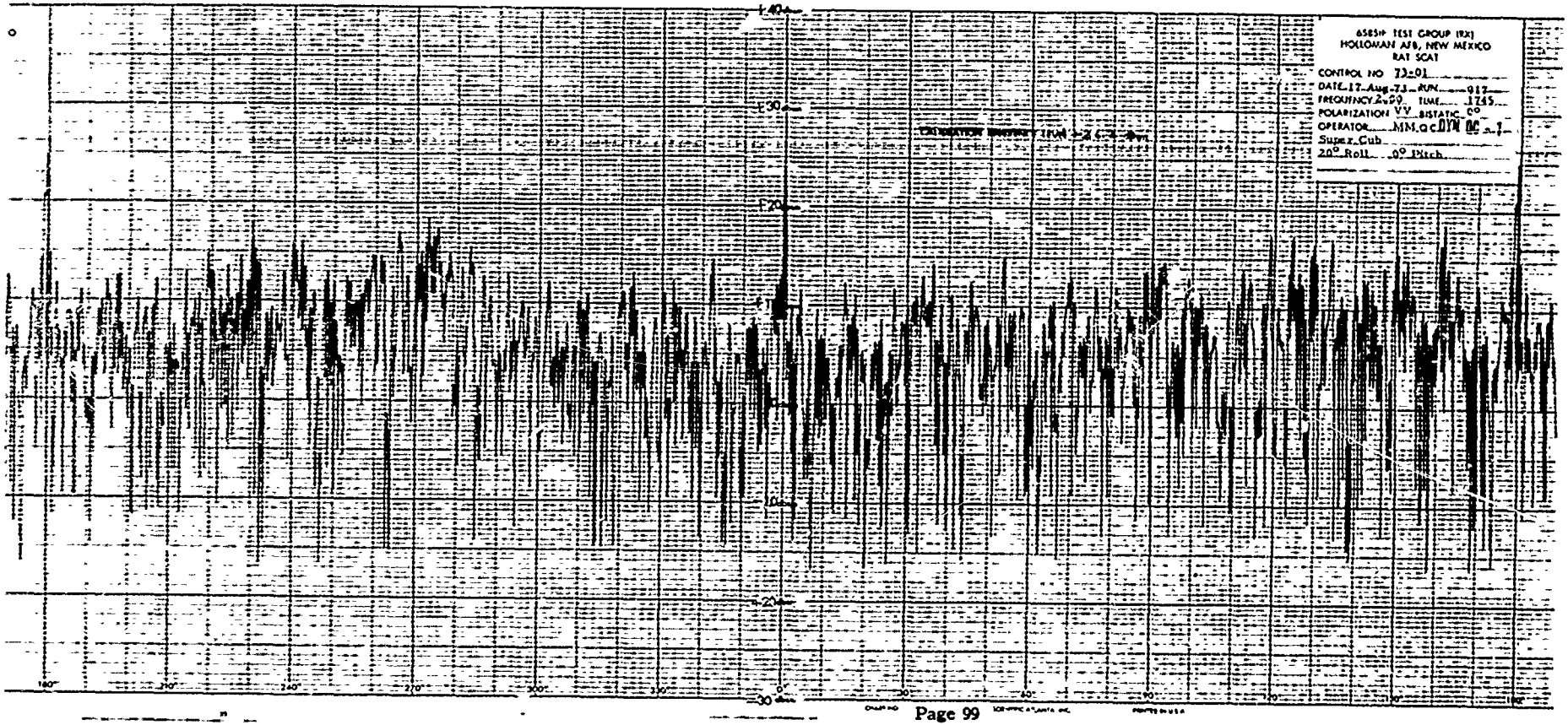


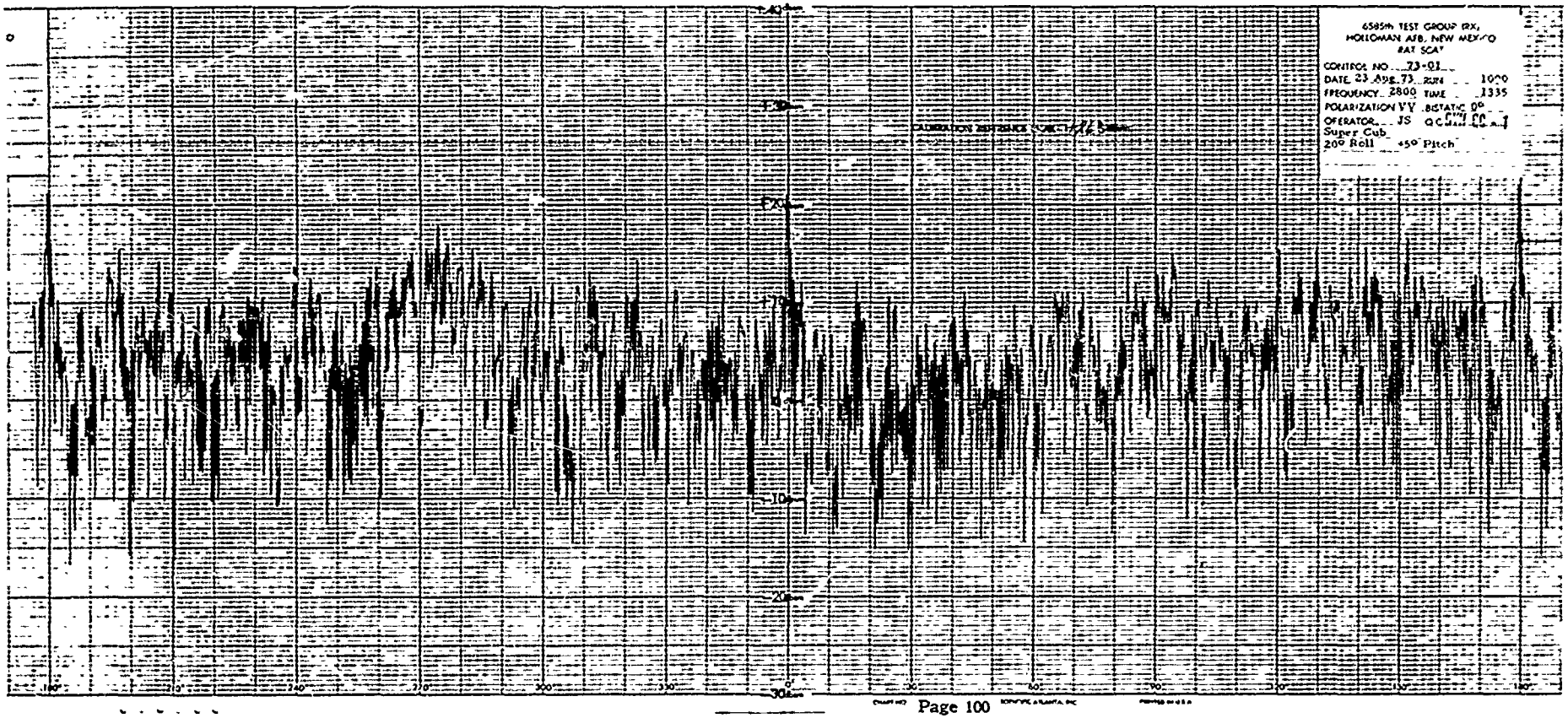

6585th TEST GROUP (RX)
HOLLOMAN AFB NEW MEXICO
RAT SCAT
CONTROL NO. 73-01
DATE 23 Aug 73 RUN 1095
FREQUENCY 2800 TIME 1525
POLARIZATION V5 B STATIC C0
OPERATOR NM
Super Cub
CC - 1
45° Pitch
CALIBRATION REFERENCE LEVEL
30
20
10
0
10
20
30
0°
30°
60°
90°
120°
150°
180°
210°
240°
270°
300°
330°

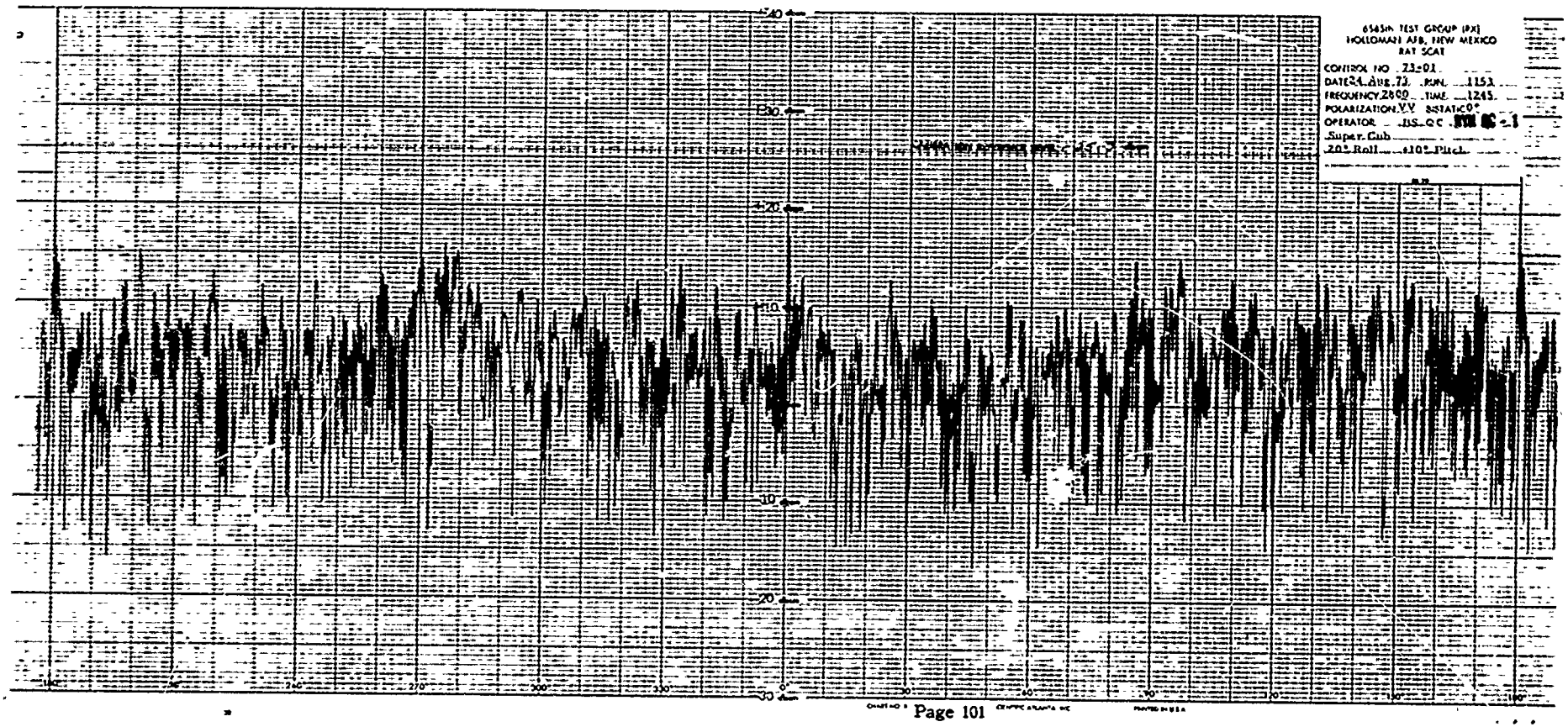

HOLLOMAN AFB NEW MEXICO
RAT SCAT
CONTROL NO 73-03
DATE 24 Aug 73 RUN 7146
FREQUENCY 2800
POLARIZATION VV BISTATIC 0°
OPERATOR DS
Super Cub
10° Roll
+40 dbsm
+30
+20
10
20
30 dbsm
0
30°
60°
90°
120°
150°
180°
210°
240°
270°
300°
330°

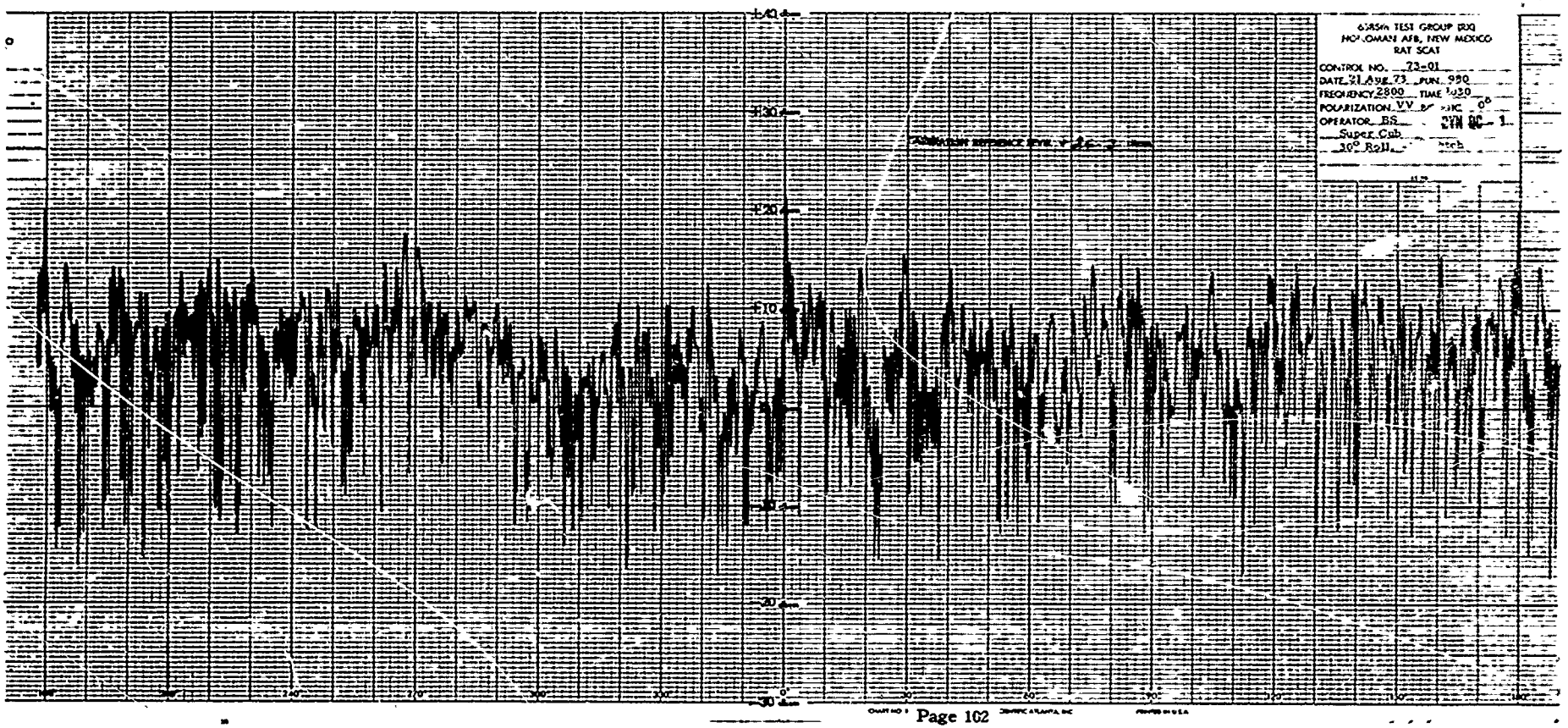

6585th TEST GROUP (RX)
HOLLOMAN AFB NEW MEXICO
RAT SCAT
CONTROL NO 73-01
DATE 22 AUG 73 RUN 1001
FREQUENCY 2800 TIME 0840
POLARIZAT ON VV BISTATIC 0°
OPERATOR JS
Super Cub
20° Roll, -10° Pitch
-20
-30
240
270
300
330
0°
30
60
90
120
150

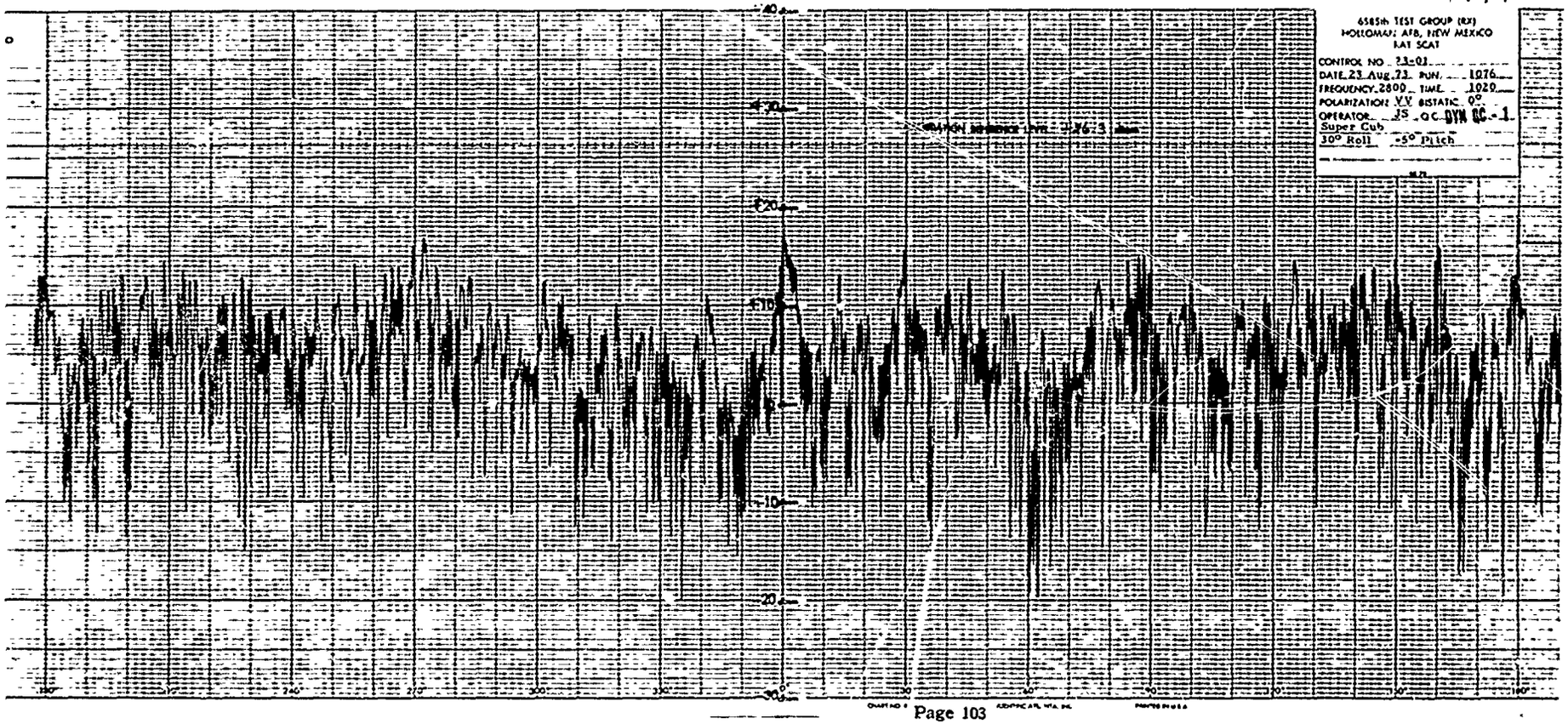

DYN QC - 1

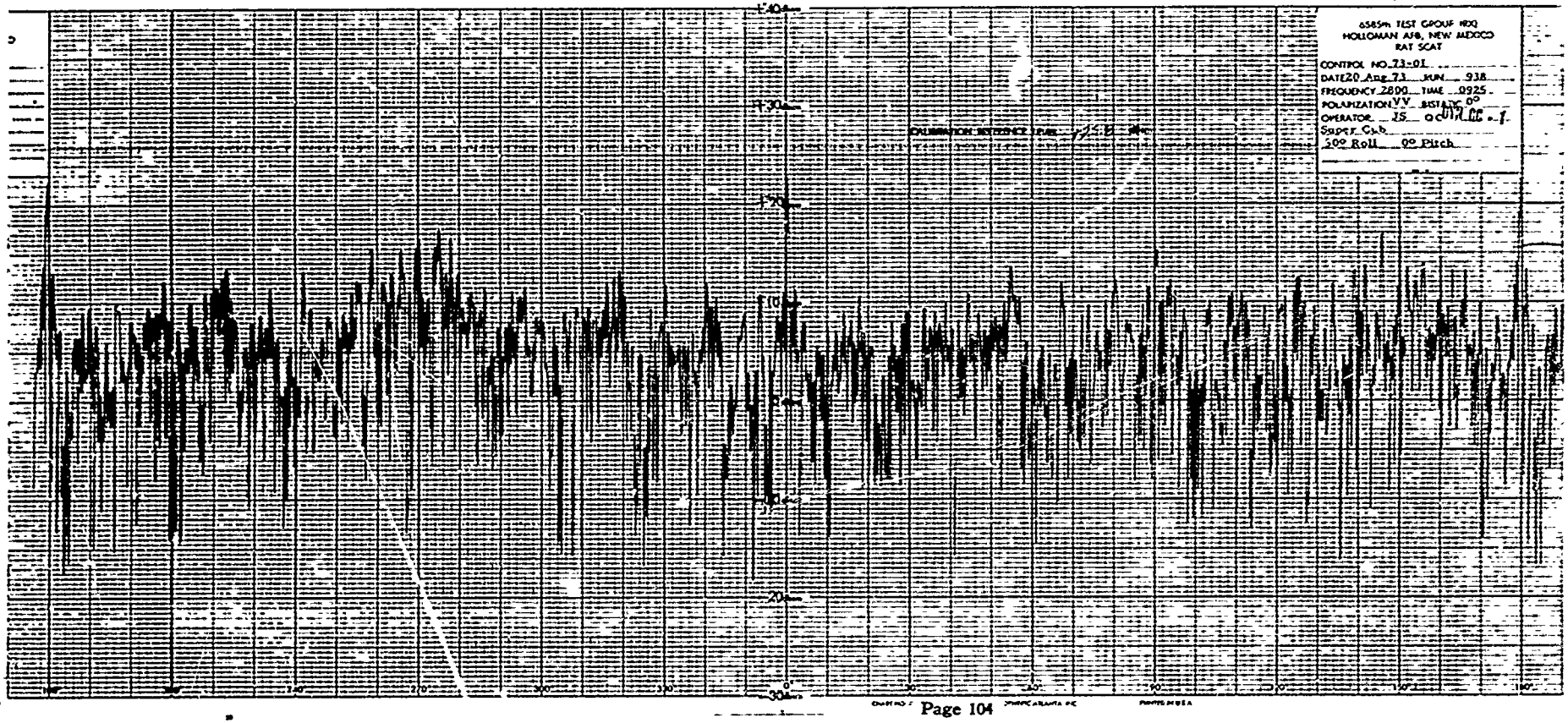

6585th TEST GROUP (RX)
HOLLOMAN AFB, NEW MEXICO
RAT SCAT
CONTROL NO 73-01
DATE 17-Aug-73 RUN 017
FREQUENCY 2.90 TIME 1745
POLARIZATION VV BISTATIC 0°
OPERATOR MM,aC
Super Cub
20° Roll 0° Pitch
+40
+30
+20
+10
-20
-30
180°
240°
270°
300°
0°
30
60
90
120
150
180

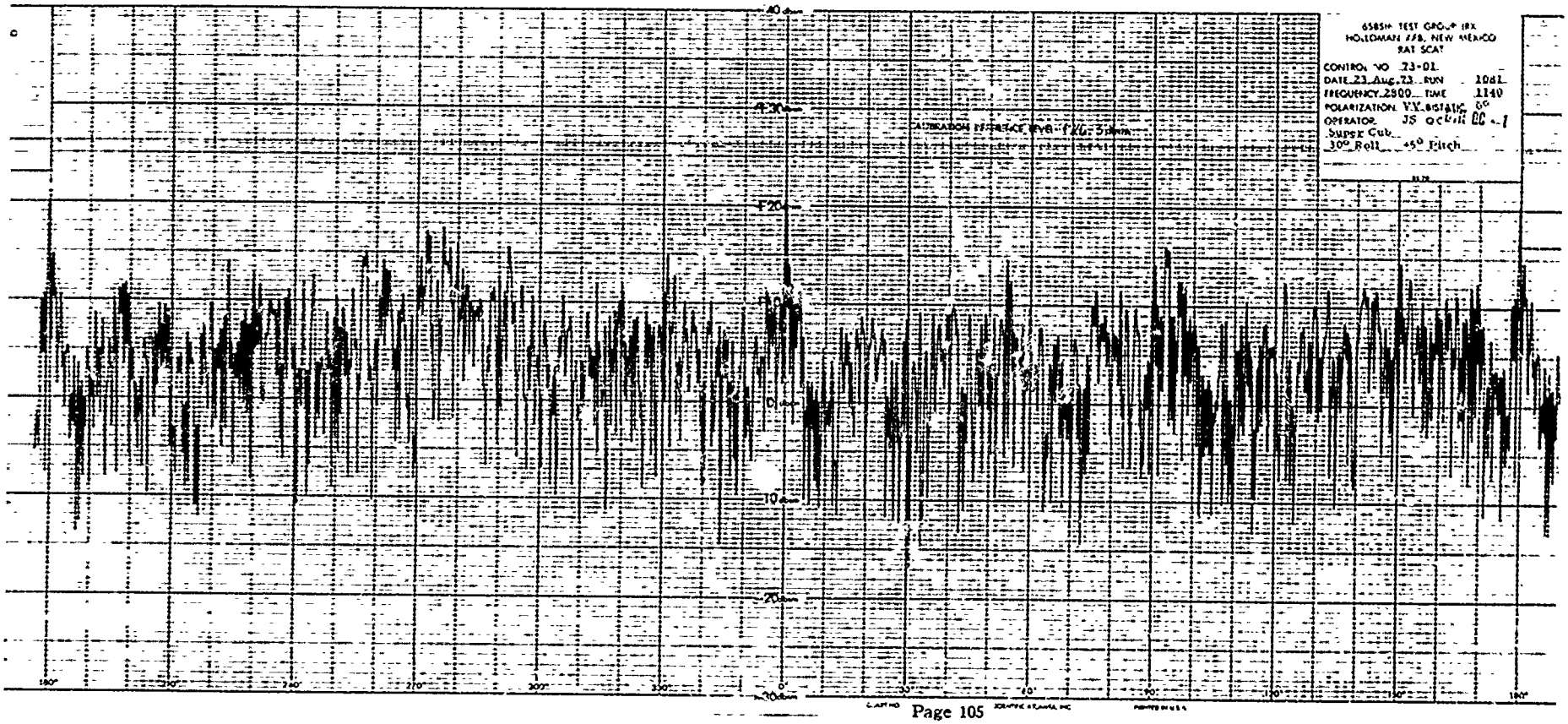

6585th TEST GROUP (RX),
HOLLOMAN AFB, NEW MEXICO
RAT SCAT
CONTROL NO. 73-01
DATE 23 Apr 73 RUN 1000
FREQUENCY 2800 TIME 1335
POLARIZATION VV BISTATIC 0°
OPERATOR JS
Super Cub
20° Roll +50° Pitch
CALIBRATION REFERENCE
-10
-20
-30
0°
30
60
90
120
150
180
210
240
270
300
330

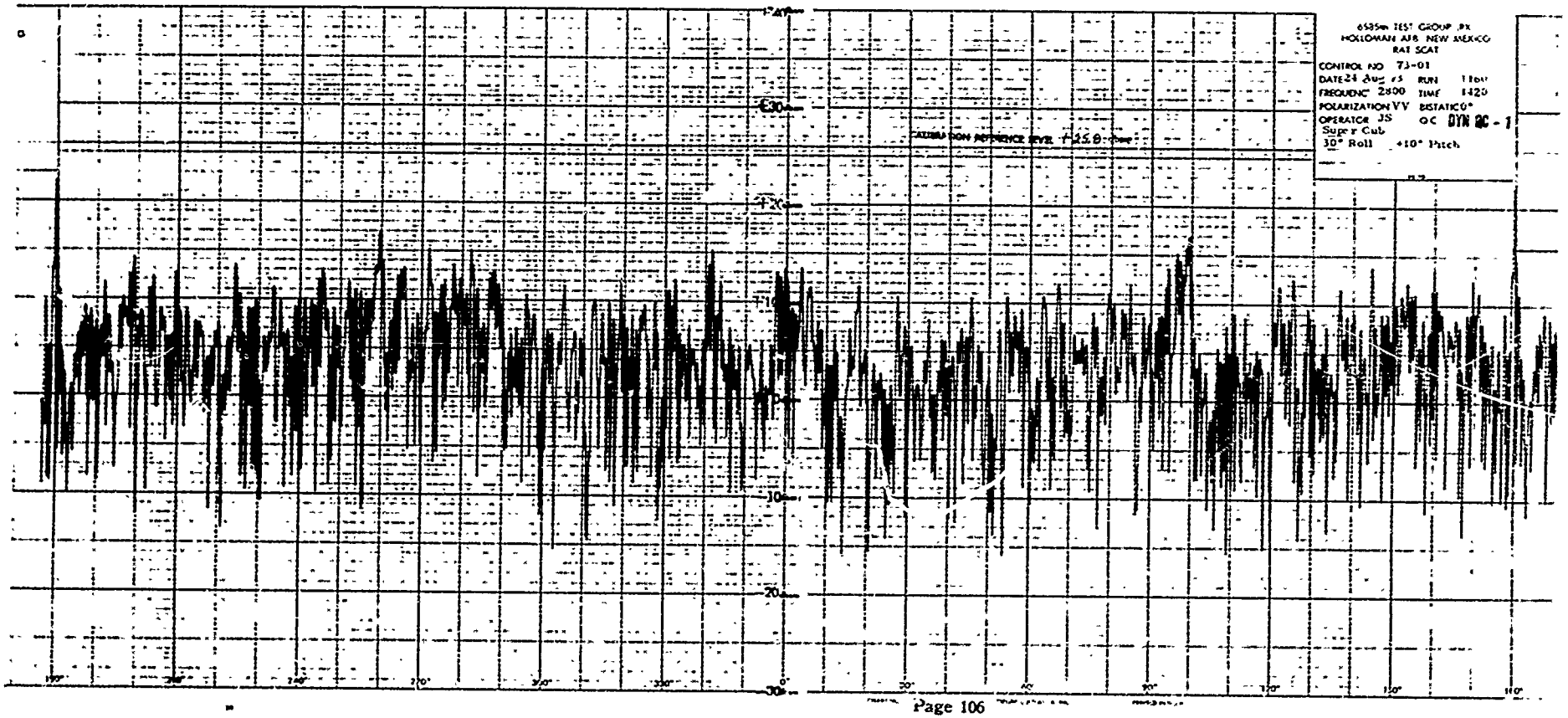

6545th TEST GROUP (PX)
HOLLOMAN AFB, NEW MEXICO
RAT SCAT
CONTROL NO 23-01
DATE 24 AUG 73 RUN 1153
FREQUENCY 2800 TIME 1245
POLARIZATION V-V BISTATIC 0°
OPERATOR JLS-QC
Super Cub
20° Roll 10° Pitch
-40
-30
-20
-10
0
10
20
30
40
50
60
70
80
90
100
110
120
130
140
150
160
170
180
190
200
210
220
230
240
250
260
270
280
290
300
310
320
330
340
350
360

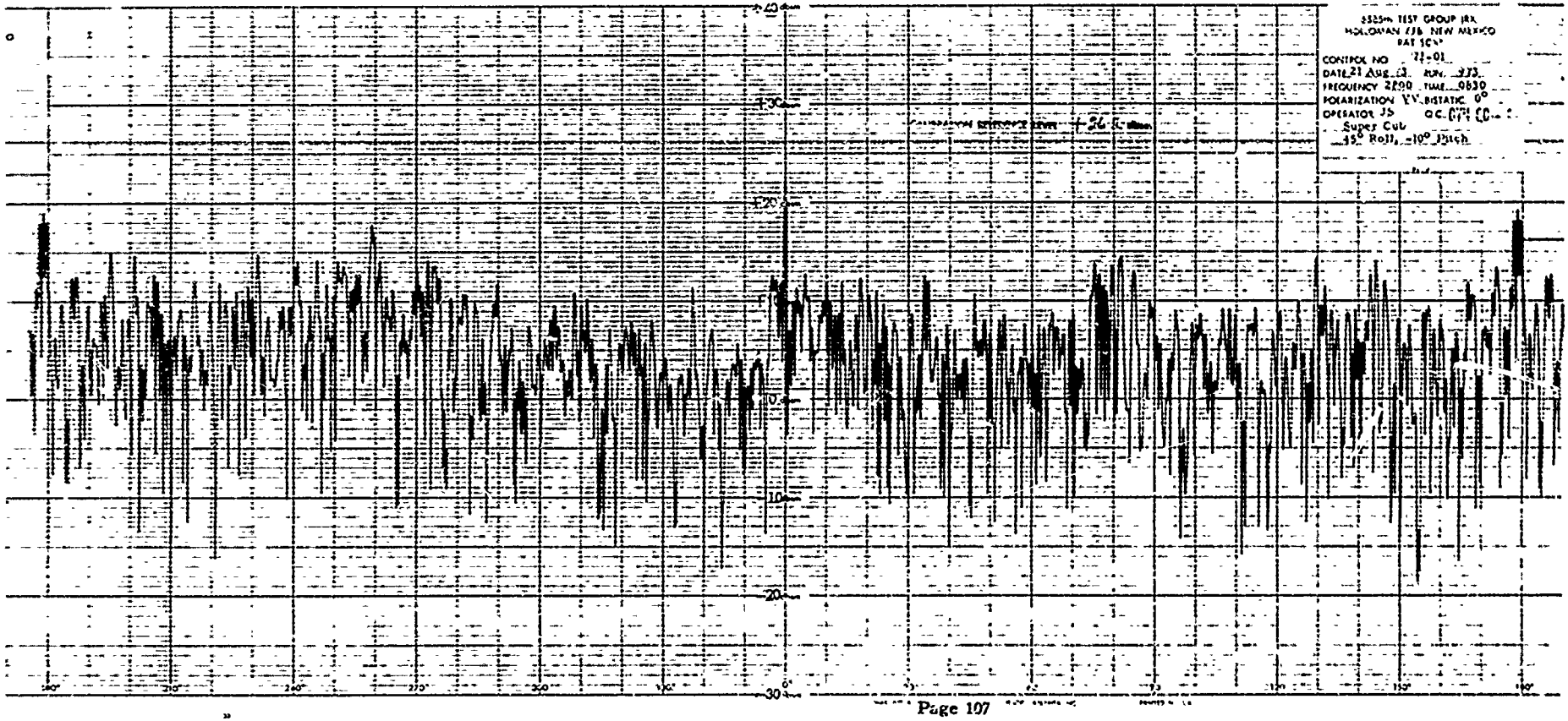

6585th TEST GROUP (RQ)
HOLLOMAN AFB, NEW MEXICO
RAT SCAT
CONTROL NO. 73-01
DATE 21 Aug 73 RUN 950
FREQUENCY 2800 TIME 1430
POLARIZATION VV
OPERATOR BS
Super Cub
30° Roll
+40
+30
+20
+10
0
-10
-20
-30

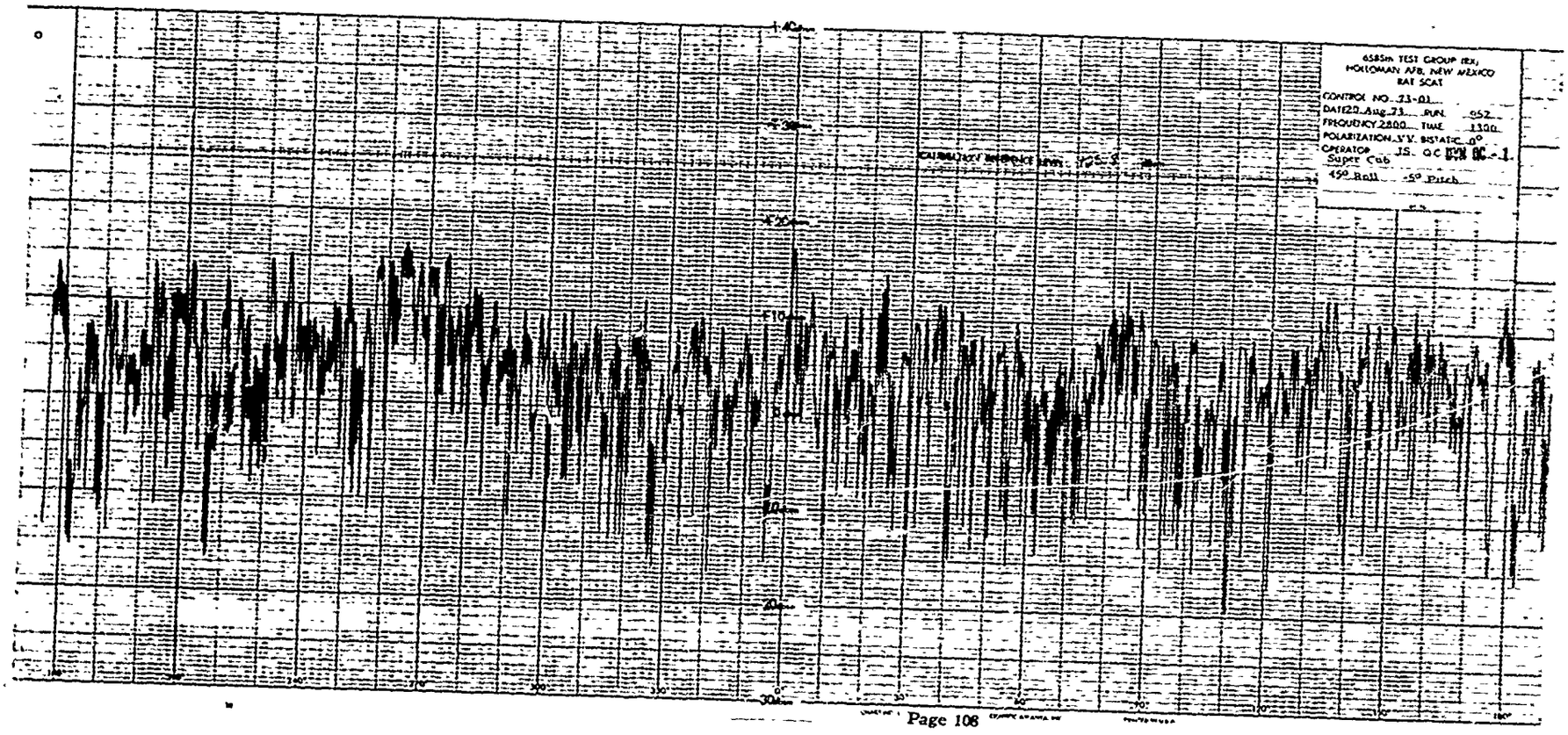

6585th TEST GROUP (RX)
HOLLOMAN AFB, NEW MEXICO
RAT SCAT
CONTROL NO. 73-01
DATE 23 Aug 73 RUN 1076
FREQUENCY 2800 TIME 1029
POLARIZATION V-V BISTATIC 0°
OPERATOR JS QC DYN QC-1
Super Cub
30° Roll -5° Pitch
40
30
20
10
0
-10
-20
-30°

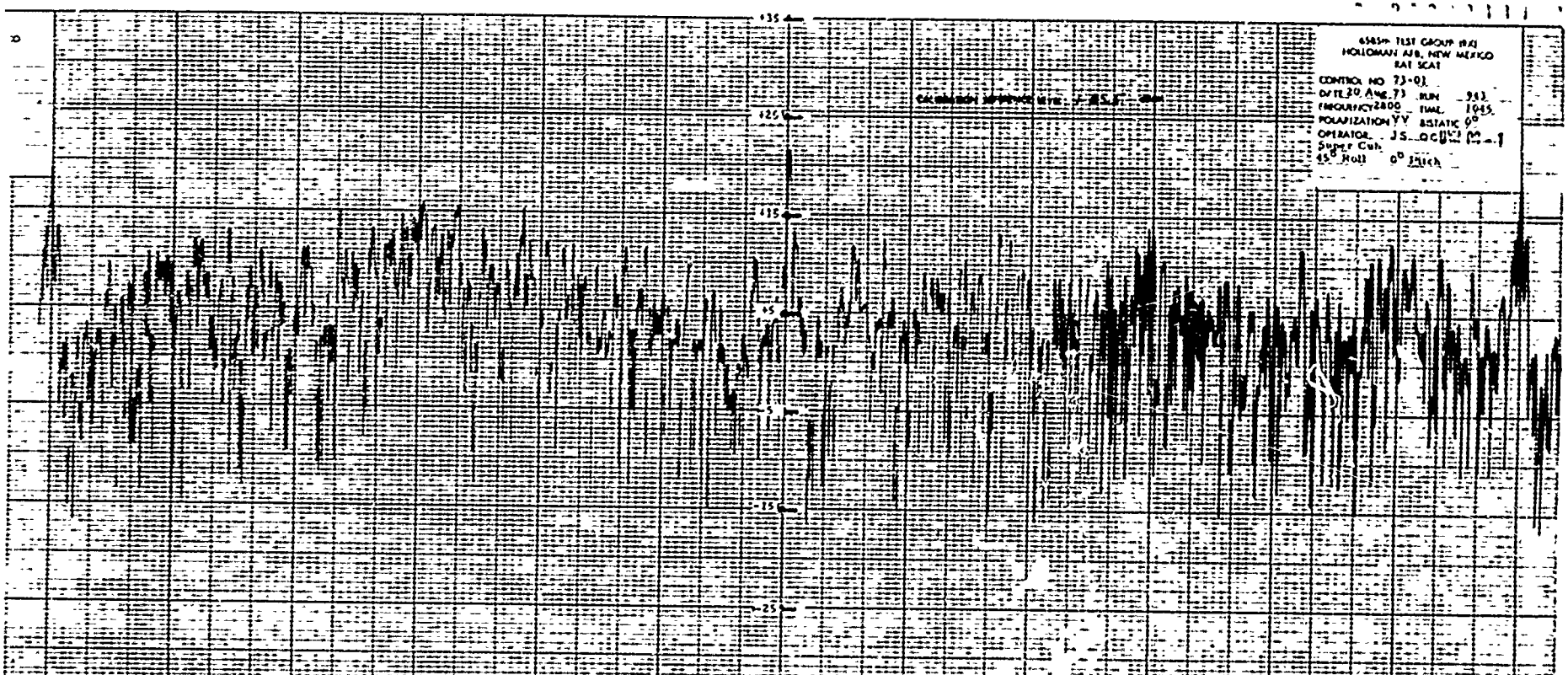

6585m TEST GROUP RDQ
HOLLOMAN AFB, NEW MEXICO
RAT SCAT
CONTROL NO. 73-01
DATE 20 Aug 73 JUN 938
FREQUENCY 2890 TIME 0925
POLARIZATION VV BISTATIC 0°
OPERATOR JS
Super Cub
500 Roll 0° Pitch
CALIBRATION REFERENCE LEVEL
40
30
20
10
0
-10
-20
-30
0°
30
60
90
120
150
180

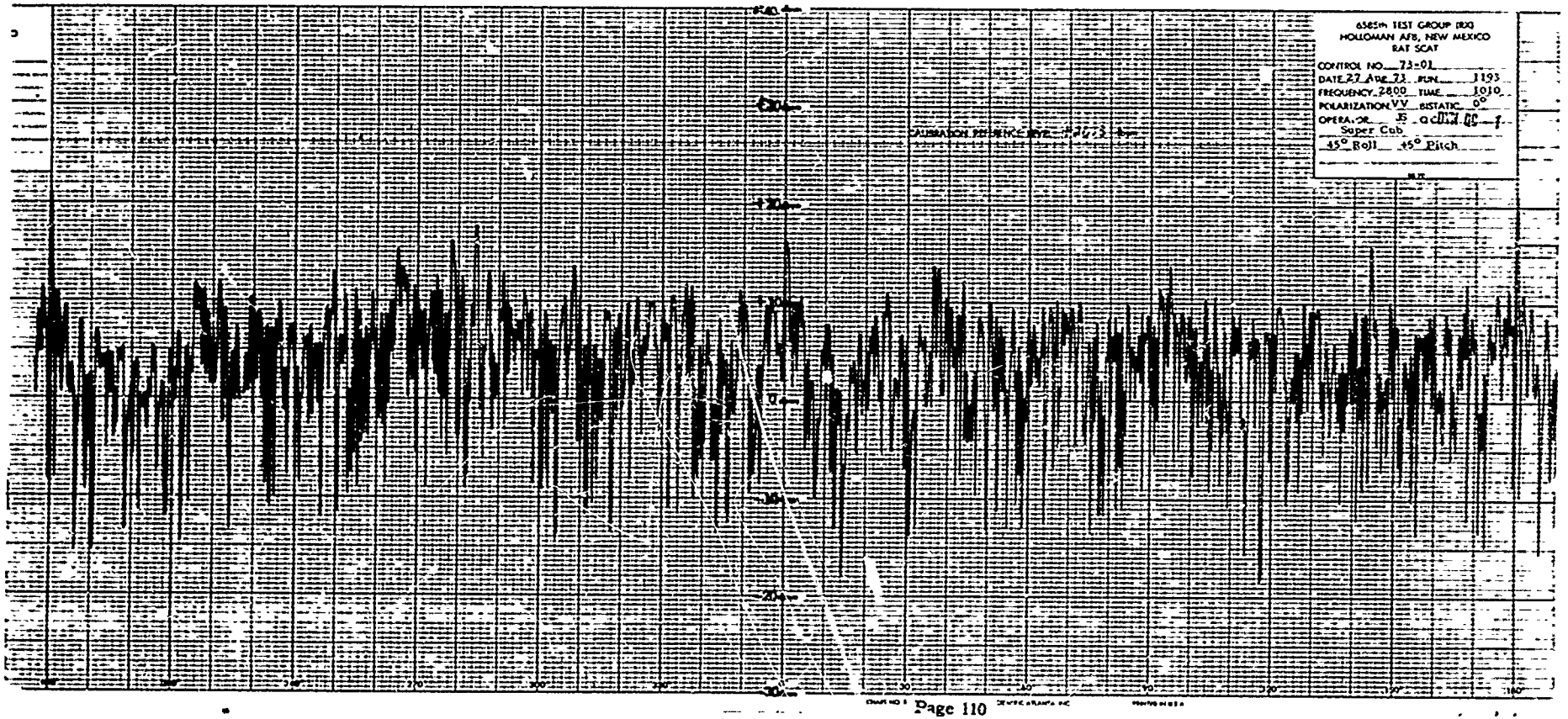

6585th TEST GROUP (RX
HOLLOMAN AFB, NEW MEXICO
RAT SCAT
CONTROL NO 23-01
DATE 23 Aug 73 RUN 1041
FREQUENCY 2900 TIME 1140
POLARIZATION V-V BISTATIC 0°
OPERATOR JS OCR
Supsr Cub
30° Roll +5° Pitch
CALIBRATION REFERENCE RVB-1 XU-5 dbsm
40 dbsm
30 dbsm
20 dbsm
10 dbsm
0 dbsm
-10 dbsm
-20 dbsm
-30 dbsm
180°
210°
240°
270°
300°
330°
0°
30°
60°
90°
120°
150°
180°

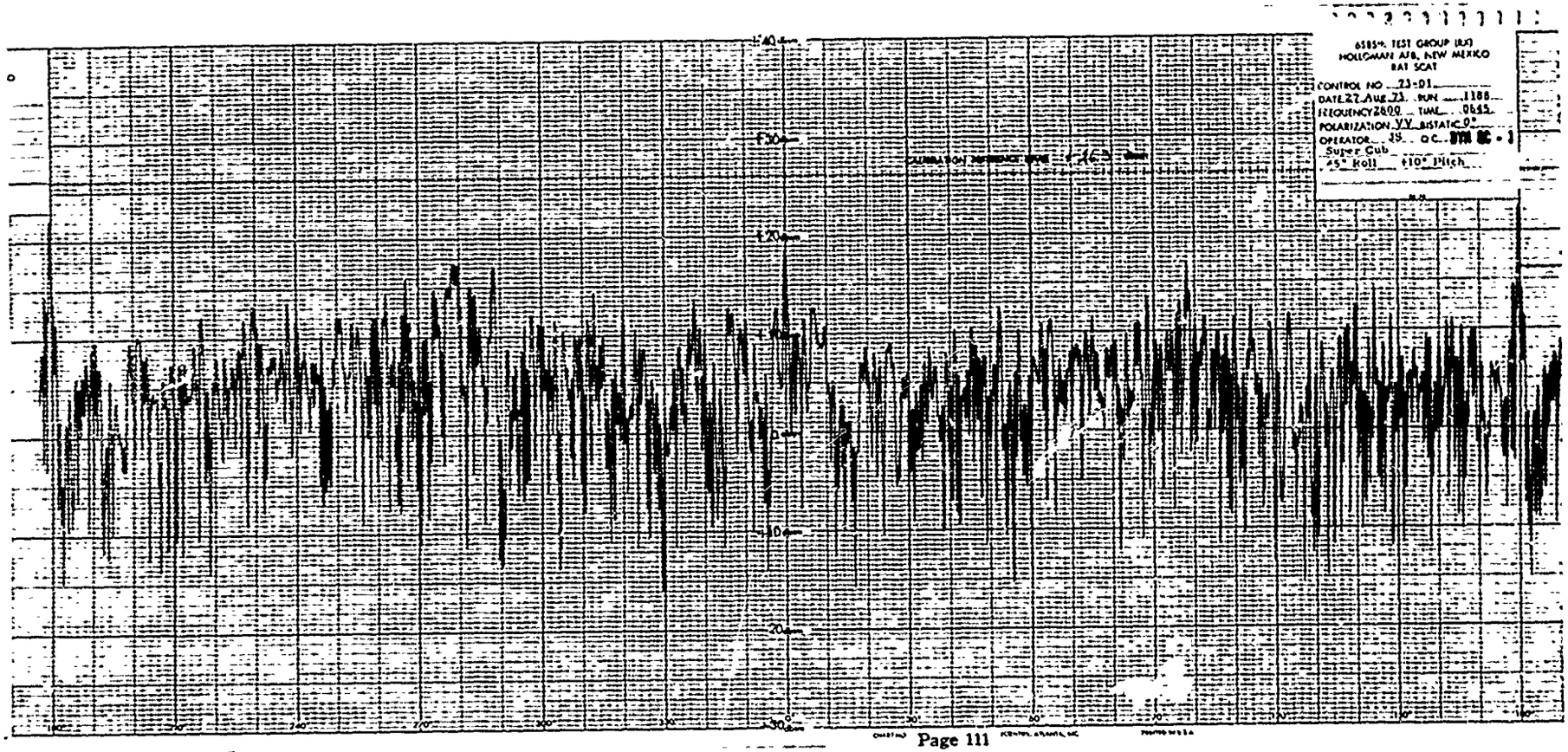

6585th TEST GROUP (P)
HOLLOMAN AFB NEW MEXICO
RAT SCAT
CONTROL NO 73-01
DATE 24 Aug 73 RUN 11ov
FREQUENC 2800 TIME 1420
POLARIZATION VV BISTATIC 0°
OPERATOR JS QC DYN QC - 1
Super Cub
30° Roll +10° Pitch
-30
-20
-10
0
10
20
-30
0°
30°
60°
90°
120°
150°
180°

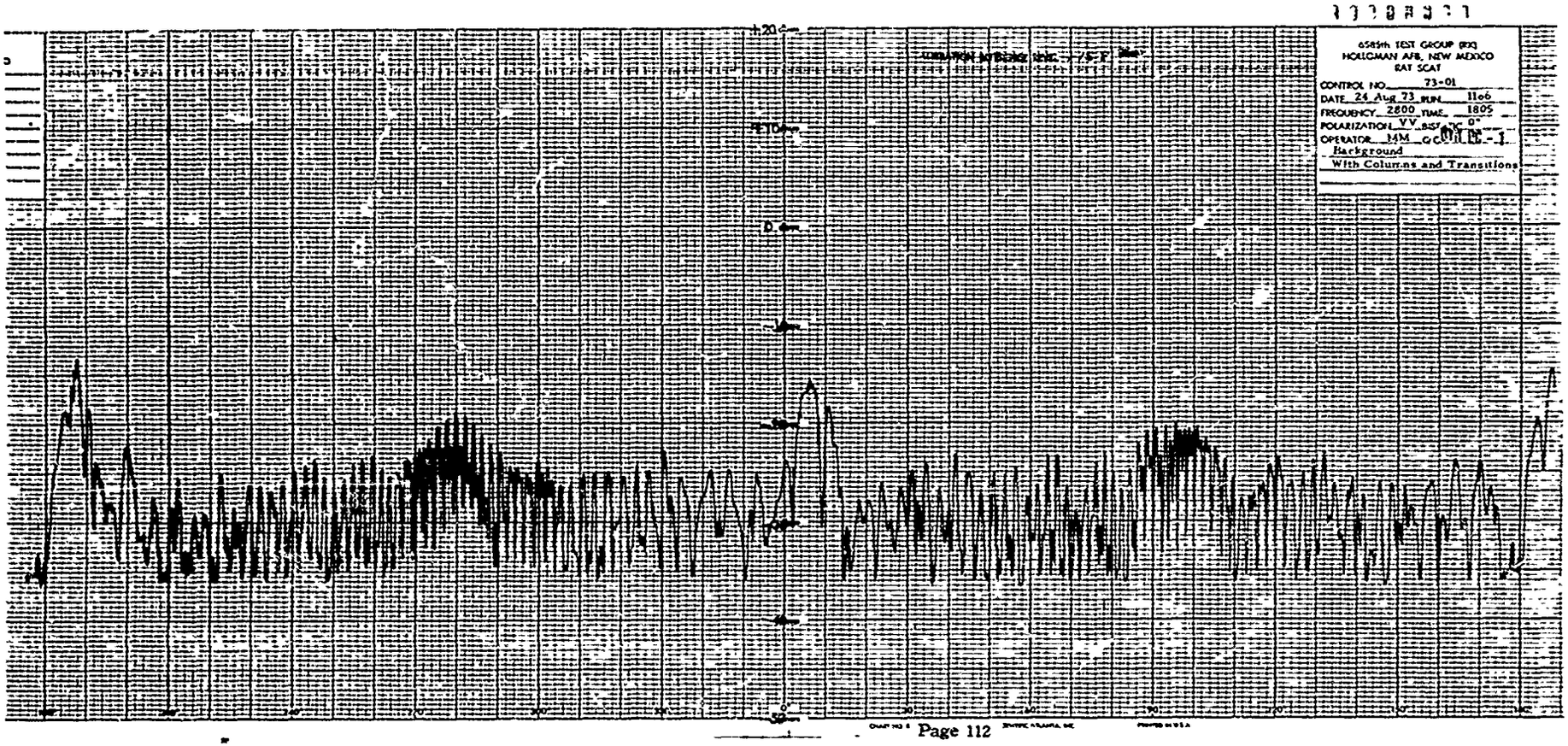

5325th TEST GROUP (RX
HOLLOMAN AFB NEW MEXICO
CONTROL NO 71-01
DATE 21 Aug 73 RUN 373
FREQUENCY 2200 TIME 0830
POLARIZATION VV BISTATIC 0°
OPERATOR JS
Super Cub
45° Roll, 10° Pitch
+40
+30
+20
+10
0
-10
-20
-30
360°
330°
300°
270°
240°
210°
180°
150°
120°
90°
60°
30°
0°

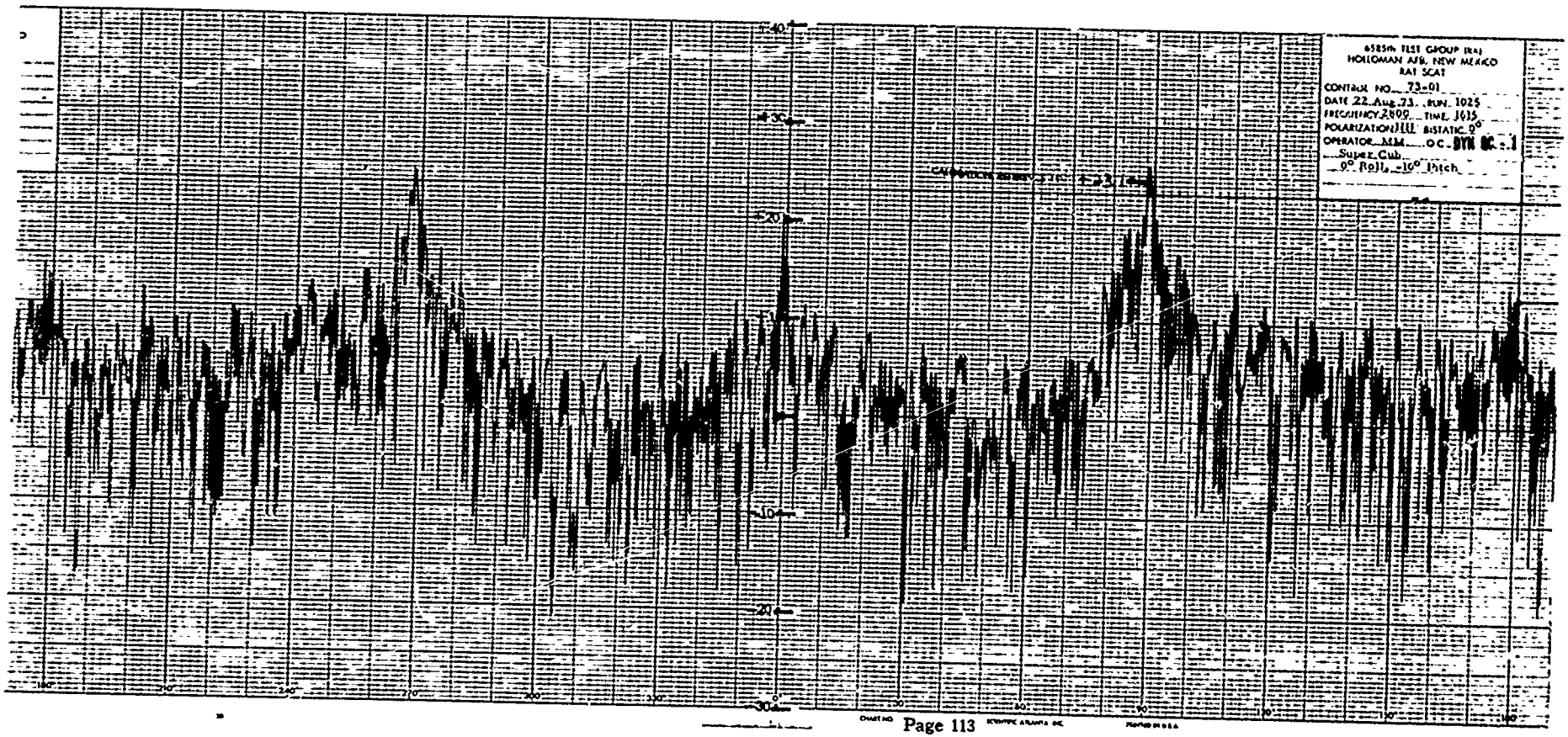

6585th TEST GROUP (RX)
HOLLOMAN AFB, NEW MEXICO
RAT SCAT
CONTROL NO. 73-01
DATE 20 Aug 73 RUN 052
FREQUENCY 2800 TIME 1300
POLARIZATION V-V BISTATIC 0°
OPERATOR JS, QC
Super Cub
45° Roll -5° Pitch
CALIBRATION REFERENCE LEVEL
+10
0
-10
-20
-30
0°
30°
60°
90°
180°

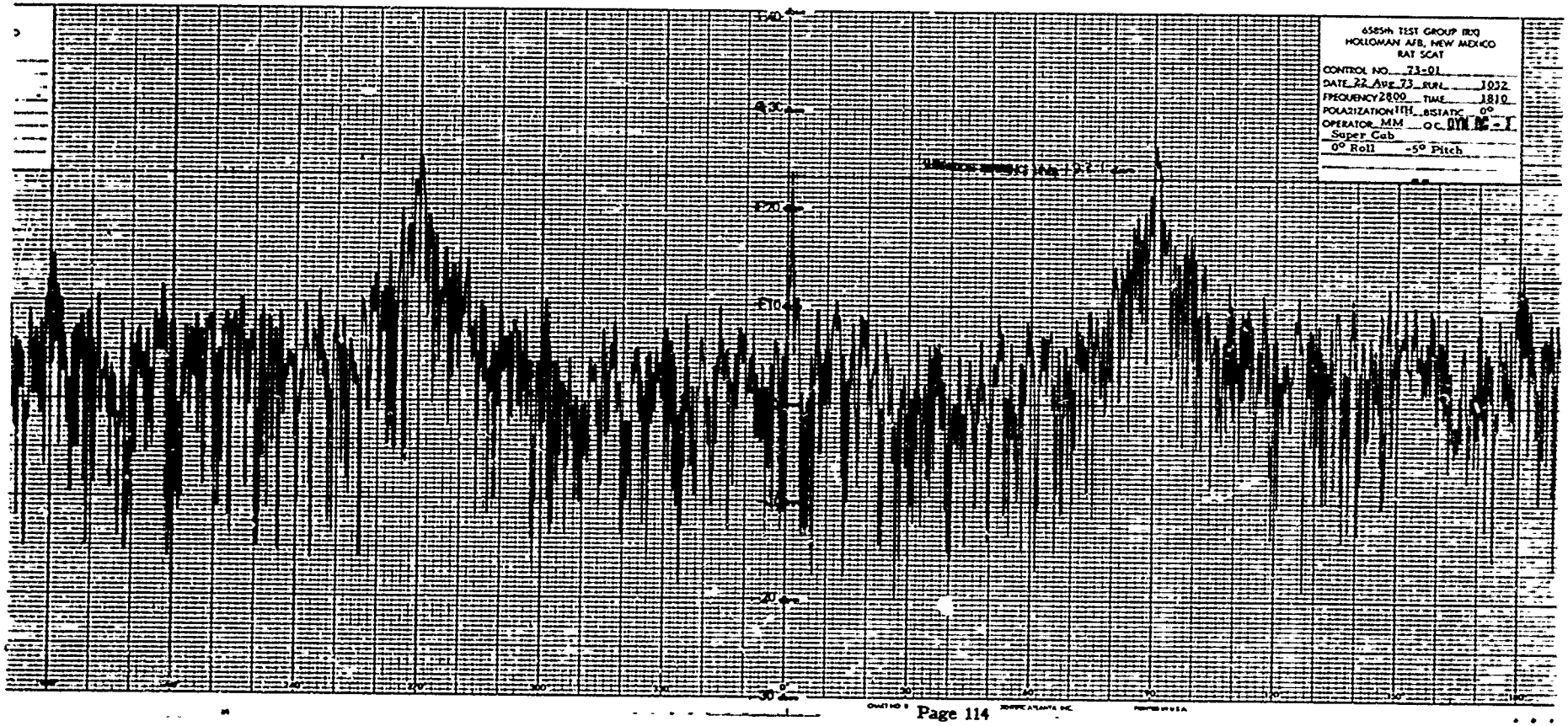

6585th TEST GROUP (RI)
HOLLOMAN AFB, NEW MEXICO
RAT SCAT
CONTROL NO 73-01
DATE 20 Aug 73 RUN 943
FREQUENCY 2800 TIME 1945
POLARIZATION VV ASTATIC 0°
OPERATOR J.S.
Super Cub
45° Roll 0° 250Ch
+35
+25
+15
+5
-5
-15
-25
-35

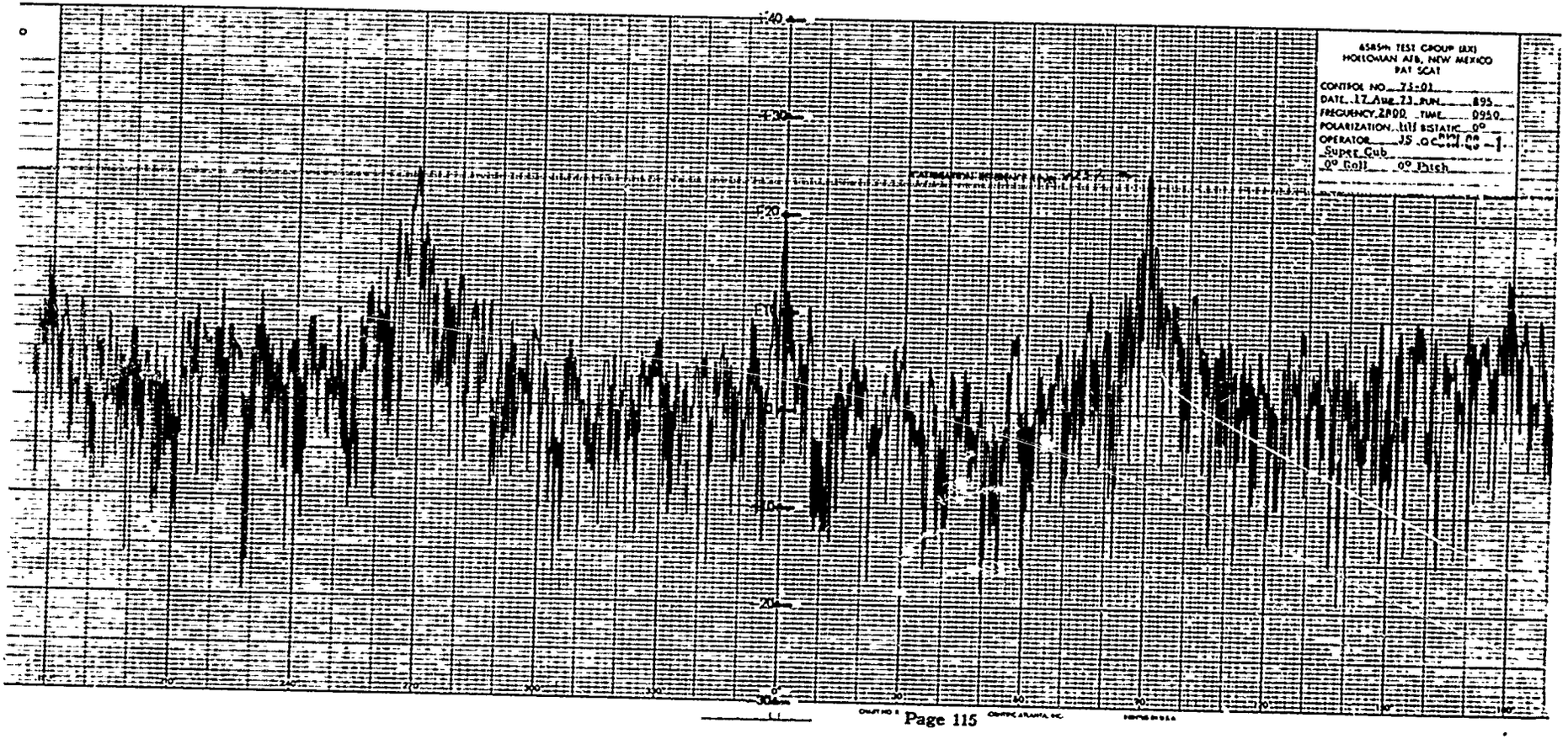

6585th TEST GROUP (RX)
HOLLOMAN AFB, NEW MEXICO
RAT SCAT
CONTROL NO. 73-01
DATE 27 Apr 73 RUN 1193
FREQUENCY 2800 TIME 1010
POLARIZATION VV BISTATIC 0°
OPERATOR JS
Super Cub
45° Roll 45° Pitch

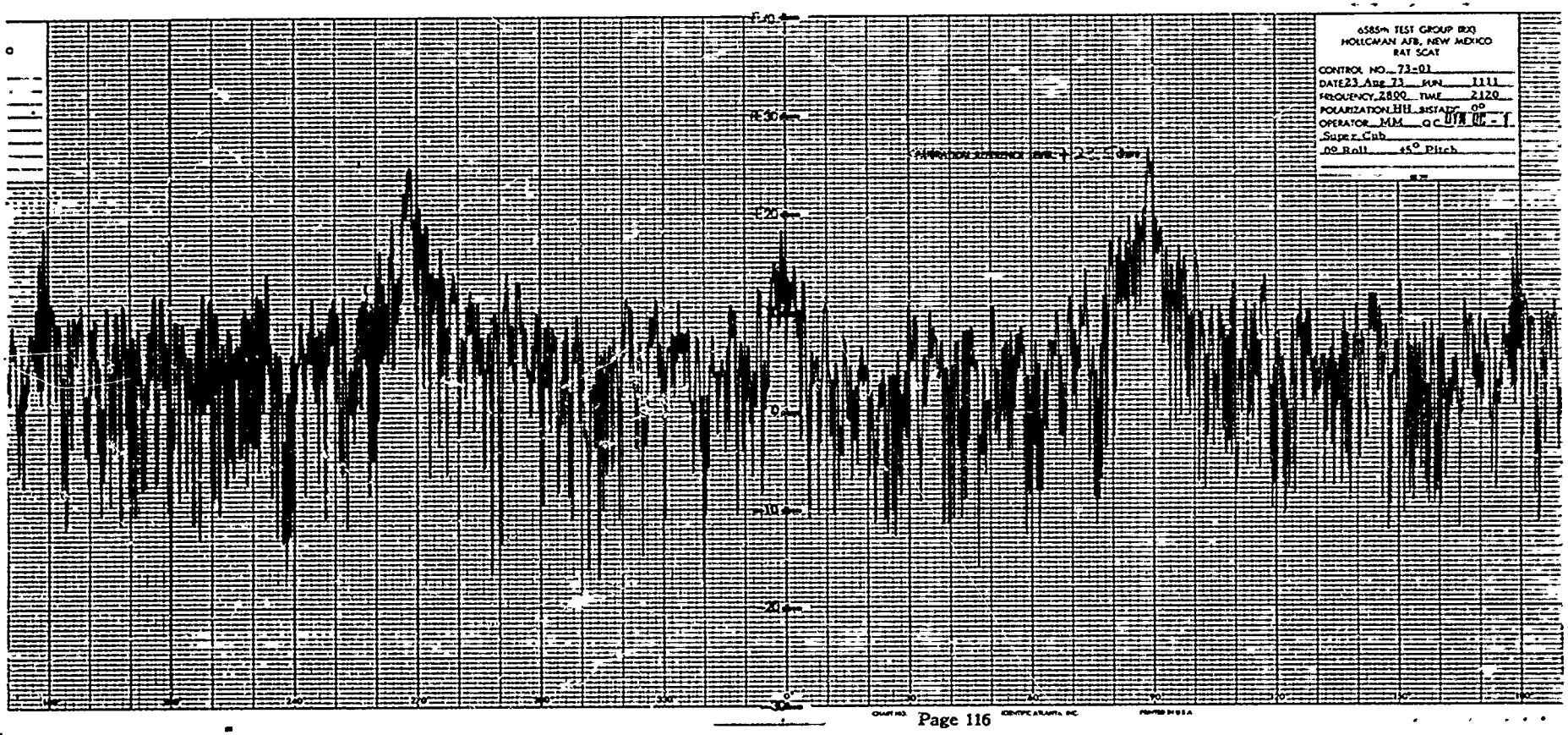

6585th TEST GROUP (RX)
HOLLOMAN AFB, NEW MEXICO
RAT SCAT
CONTROL NO 23-01
DATE 27 Aug 73 RUN 1188
FREQUENCY 2800 TIME 0645
POLARIZATION VV BISTATIC 0°
OPERATOR JS QC BTM QC - 1
Super Cub
45° Roll ±10° Pitch
+40
+30
+20
+10
-10
-20
-30

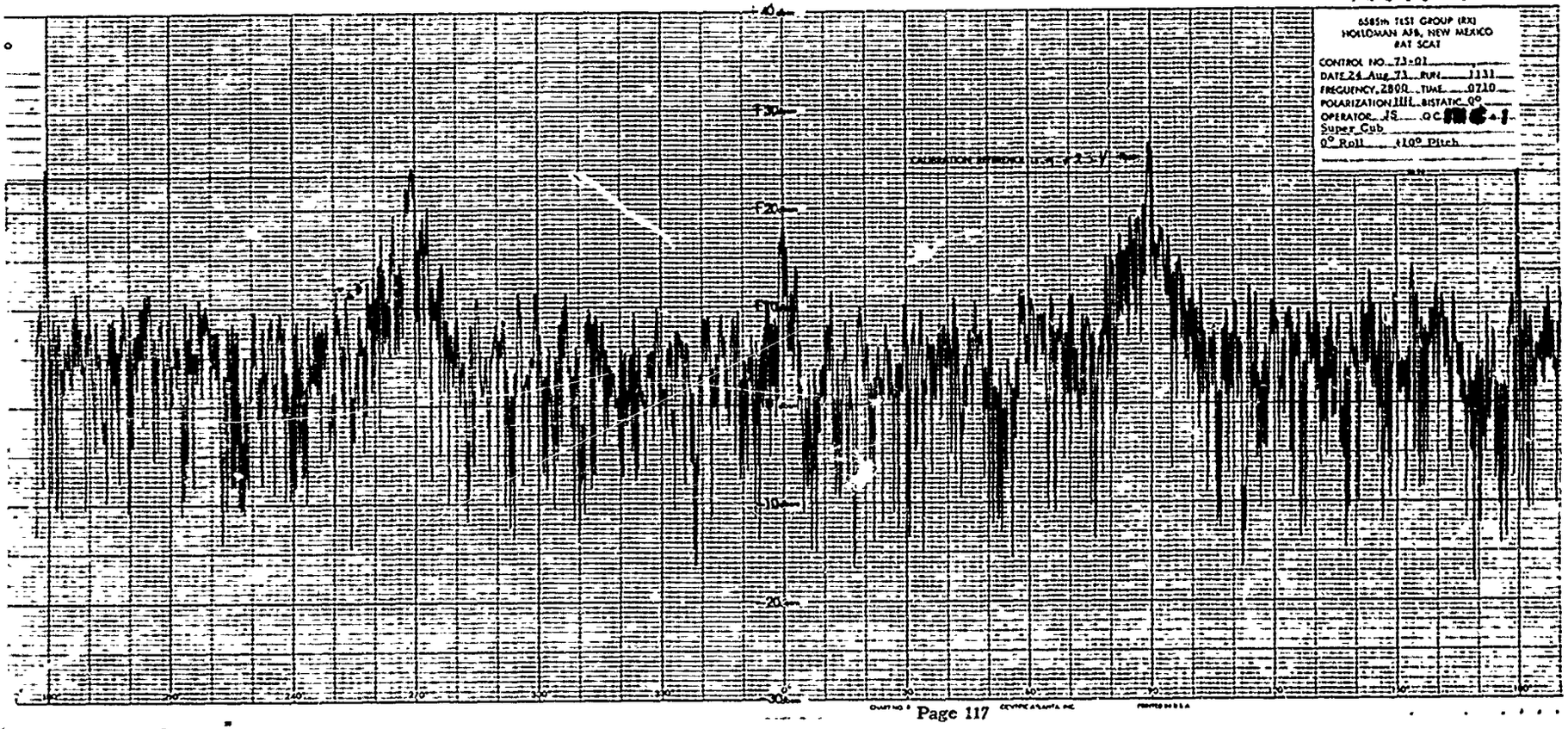

6585th TEST GROUP (RX)
HOLLOMAN AFB, NEW MEXICO
RAT SCAT
CONTROL NO. 73-01
DATE 24 Aug 73 RUN 1106
FREQUENCY 2800 TIME 1805
POLARIZATION VV BIST TC 0°
OPERATOR MM GC
Background
With Columns and Transitions

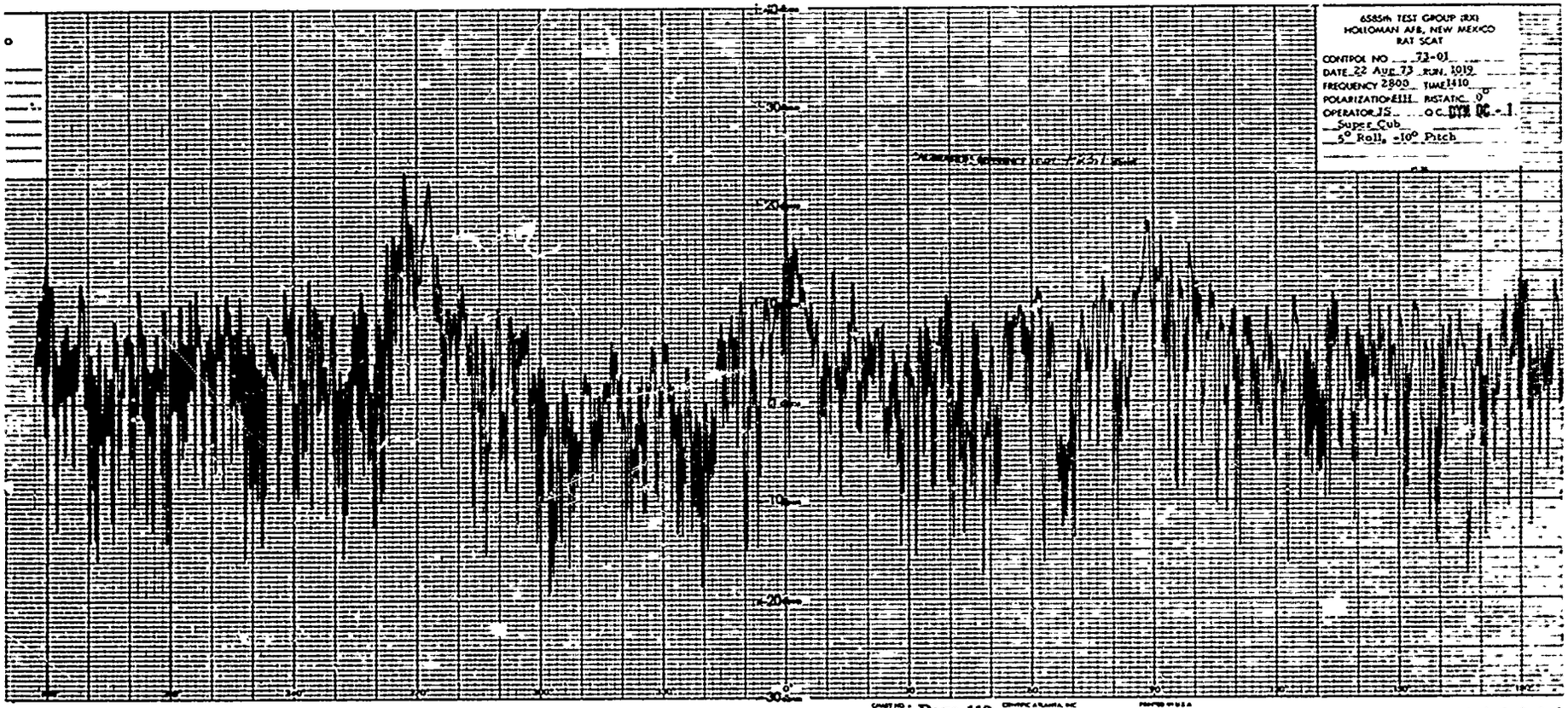

6585th TEST GROUP (RA)
HOLLOMAN AFB, NEW MEXICO
RAT SCAT
CONTACT NO. 73-01
DATE 22 Aug 73 RUN 1025
FREQUENCY 2809 TIME 1615
POLARIZATION HH BISTATIC 9°
OPERATOR MSM OC DYN RC
Super Cub
0° Roll, -10° Pitch
-40
-30
-20
-10
-20
-30
CHART NO.

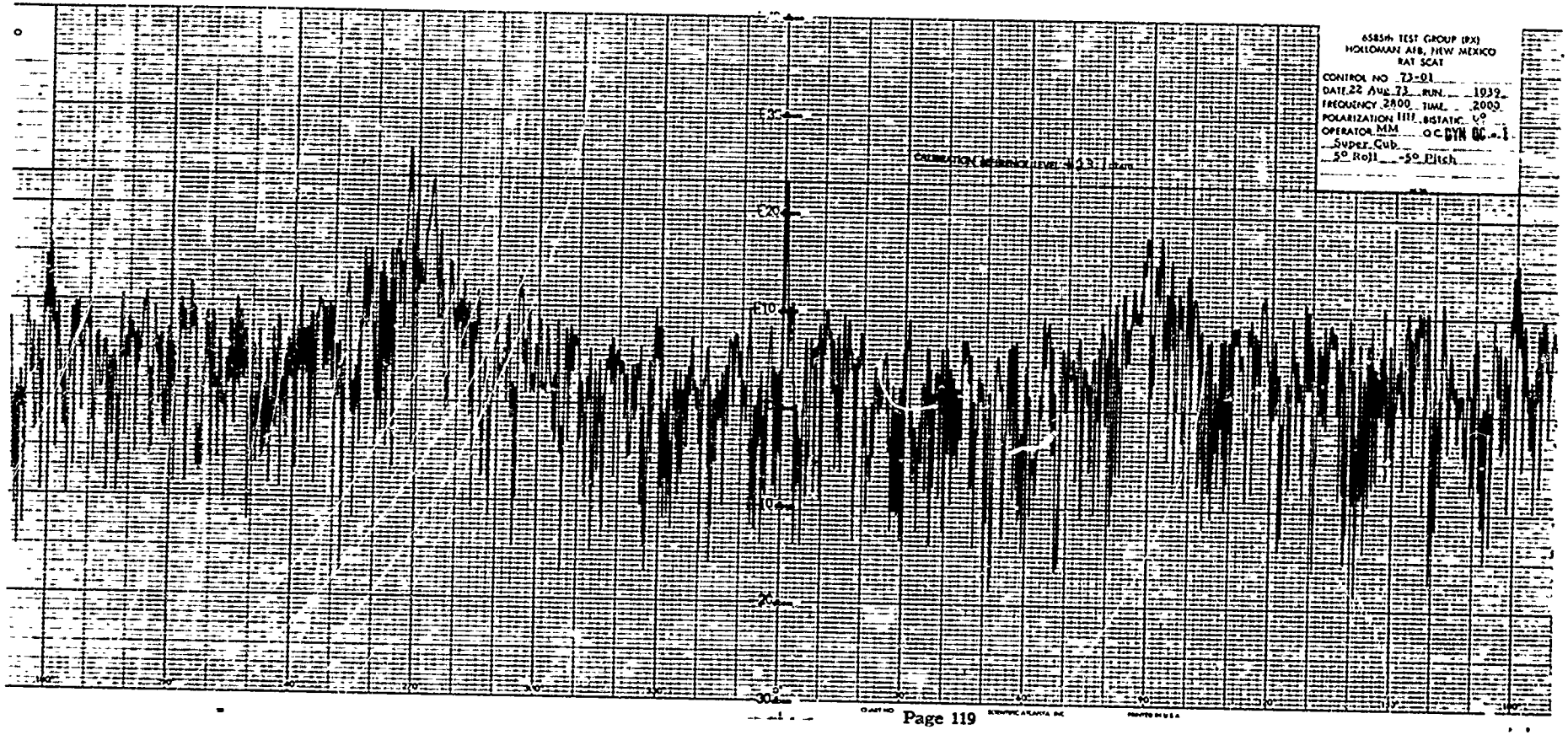

6585th TEST GROUP (RX)
HOLLOMAN AFB, NEW MEXICO
RAT SCAT
CONTROL NO. 73-01
DATE 22 Aug 73 RUN 1032
FREQUENCY 2800 TIME 1810
POLARIZATION TTH BISTATIC 0°
OPERATOR MM OC
Super Cab
0° Roll -5° Pitch
+40
+30
+20
+10
0
-10
-20
-30°

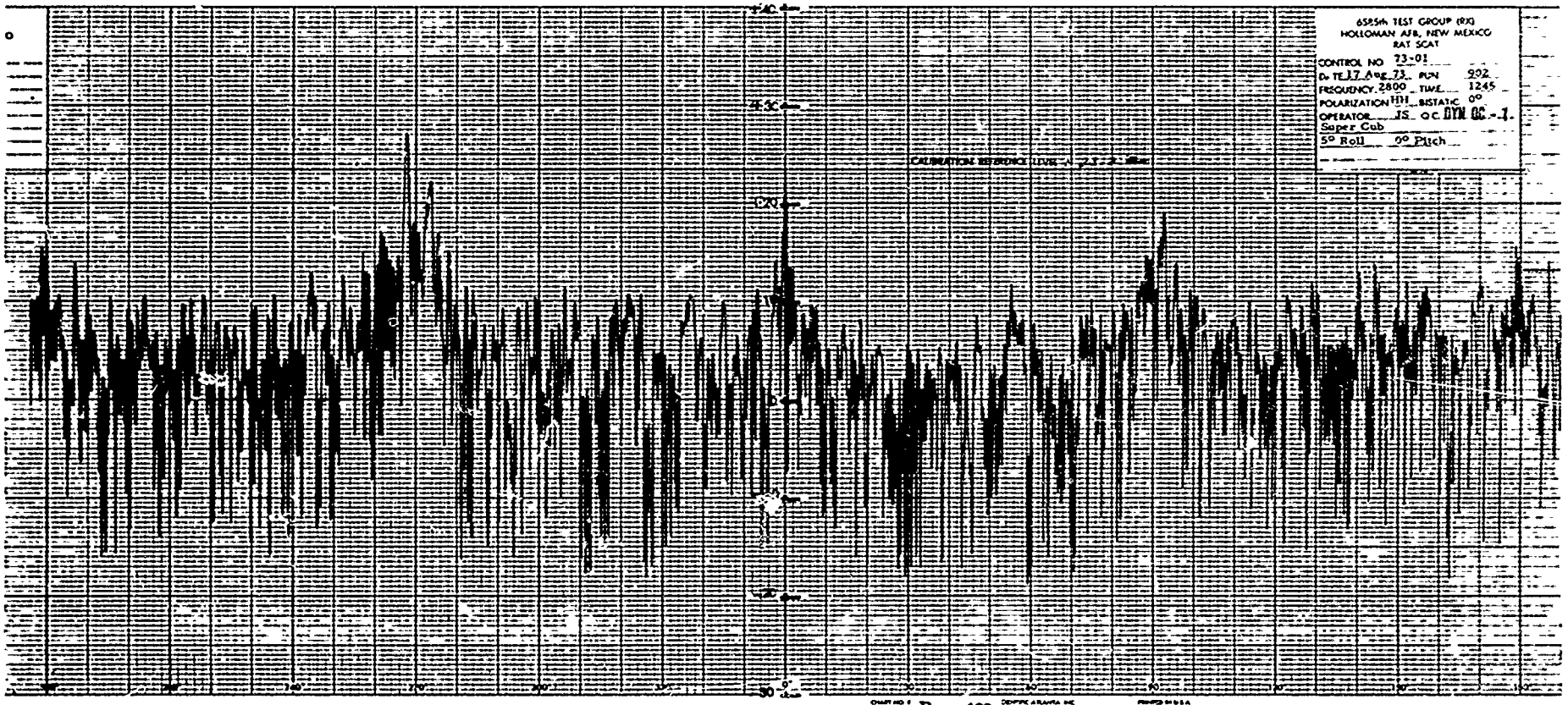

6585th TEST GROUP (RX)
HOLLOMAN AFB, NEW MEXICO
PAT SCAT
CONTROL NO. 73-01
DATE 17 Aug 73 RUN 895
FREQUENCY 2800 TIME 0950
POLARIZATION H/H BISTATIC 0°
OPERATOR JS OC
Super Cub
0° Roll 0° Pitch
-40
-30
-20
-10
0
-20
-30
0°
30
60
90
120
150
180

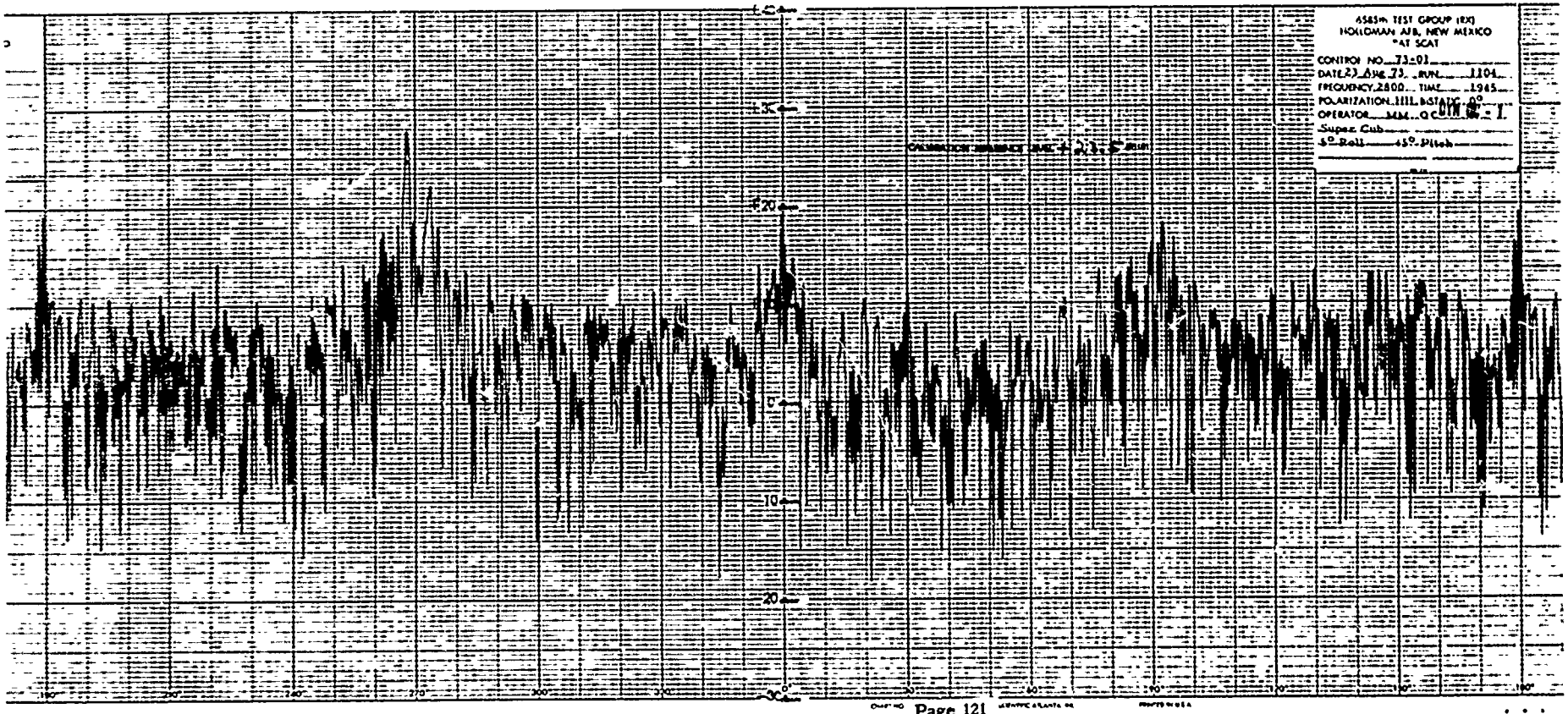

6585th TEST GROUP (RX)
HOLLOMAN AFB, NEW MEXICO
RAT SCAT
CONTROL NO. 73-01
DATE 23 Aug 73 RUN 1111
FREQUENCY 2890 TIME 2120
POLARIZATION HH BISTATIC 0°
OPERATOR MM QC
Super Cub
0° Roll 45° Pitch
+40 dBsm
+30 dBsm
+20 dBsm
0 dBsm
-10 dBsm
-20 dBsm
0°
30
60
90
120
150
180

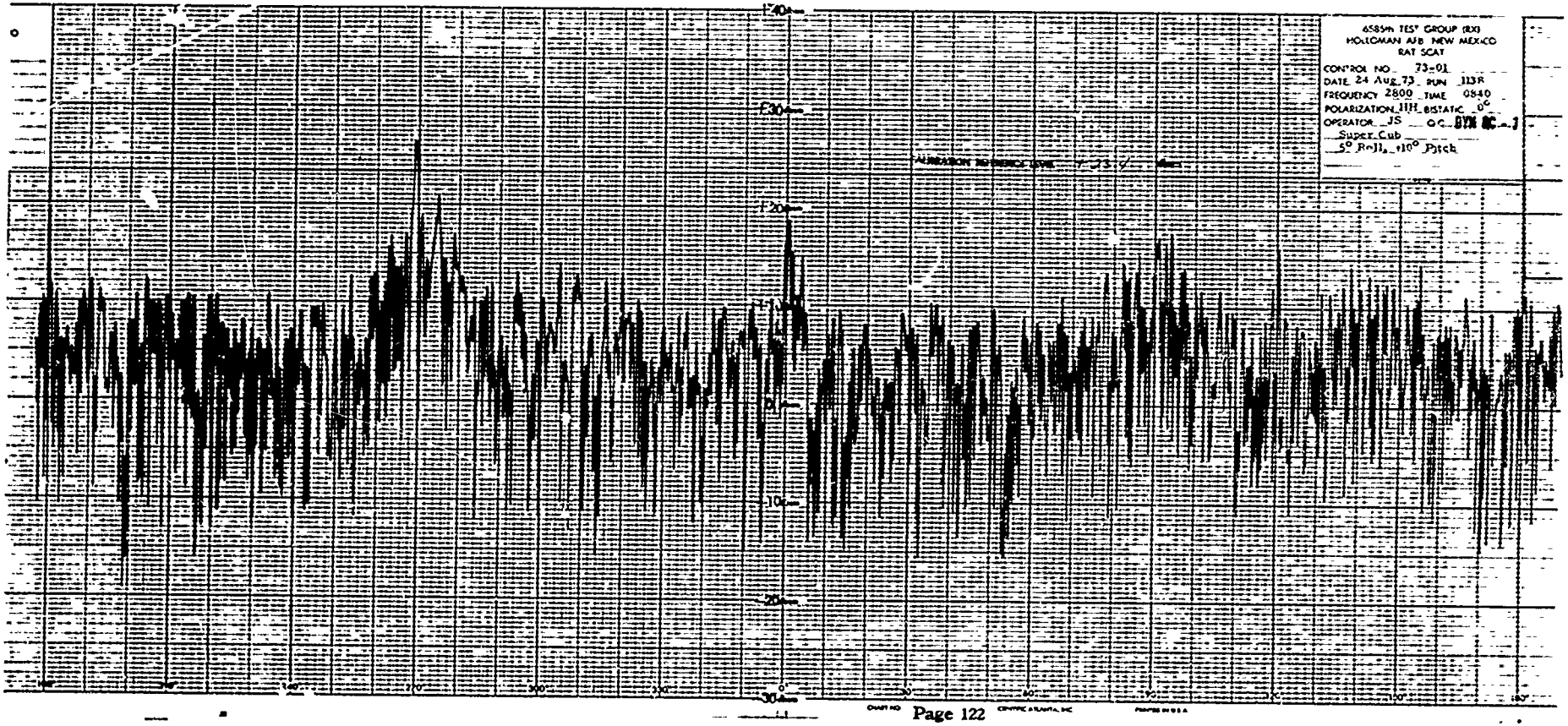

6585th TEST GROUP (RX)
HOLLOMAN AFB, NEW MEXICO
#AT SCAT
CONTROL NO. 73-01
DATE 24 Aug 73 RUN 1131
FREQUENCY 2800 TIME 0710
POLARIZATION HH BISTATIC 0°
OPERATOR JS QC [redacted]
Super Cub
0° Roll +10° Pitch
CALIBRATION REFERENCE
40
30
20
10
0
-10
-20
-30
0°
30°
60°
90°
120°
150°
180°
210°
240°
270°
300°
330°
360°

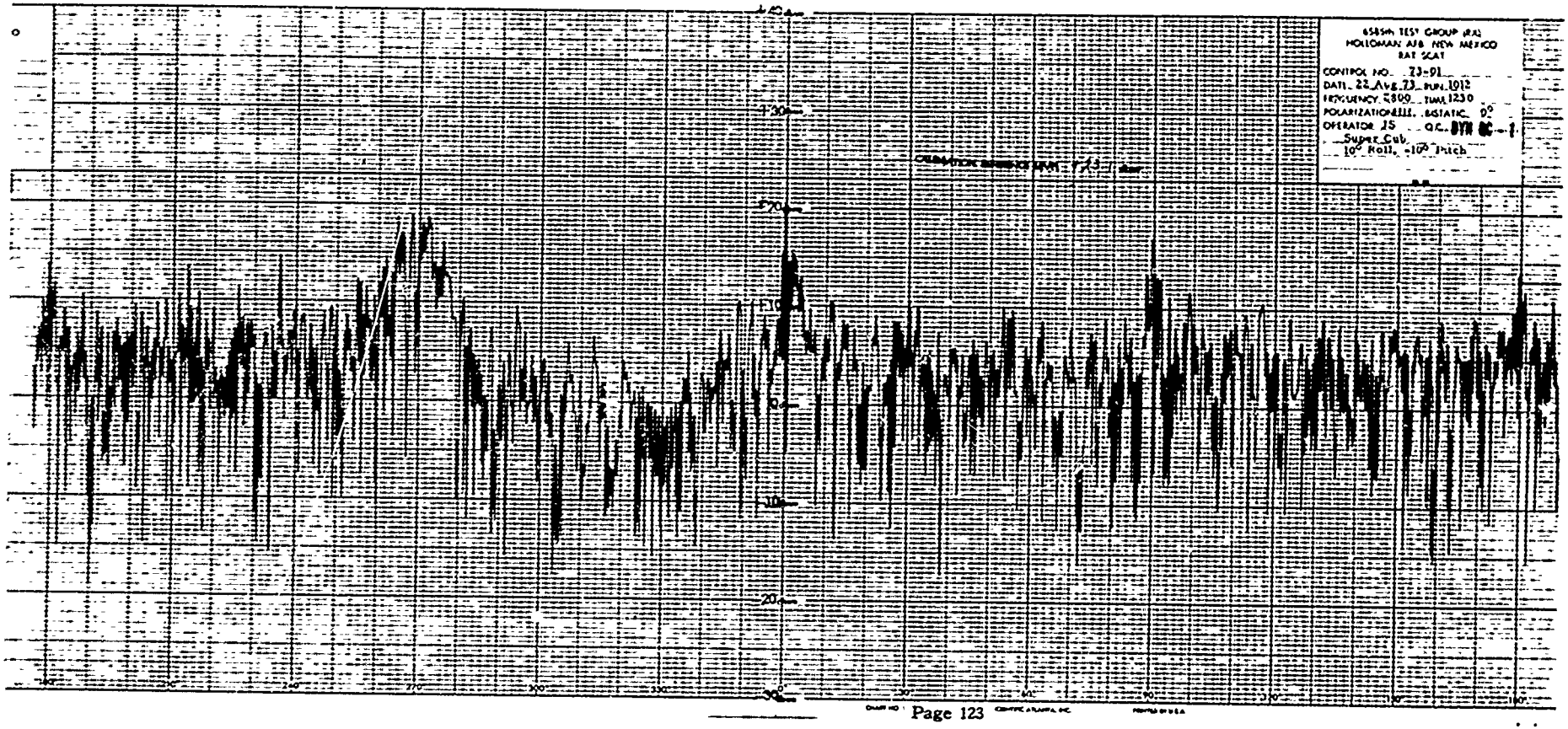

6585th TEST GROUP (RX)
HOLLOMAN AFB, NEW MEXICO
RAT SCAT
CONTROL NO 73-01
DATE 22 Aug 73 RUN 1919
FREQUENCY 2800 TIME 1410
POLARIZATION HH BISTATIC 0°
OPERATOR JS OC DATA OC-1
Super Cub
5° Roll, -10° Pitch
+30
+20
+10
0
-10
-20
-30

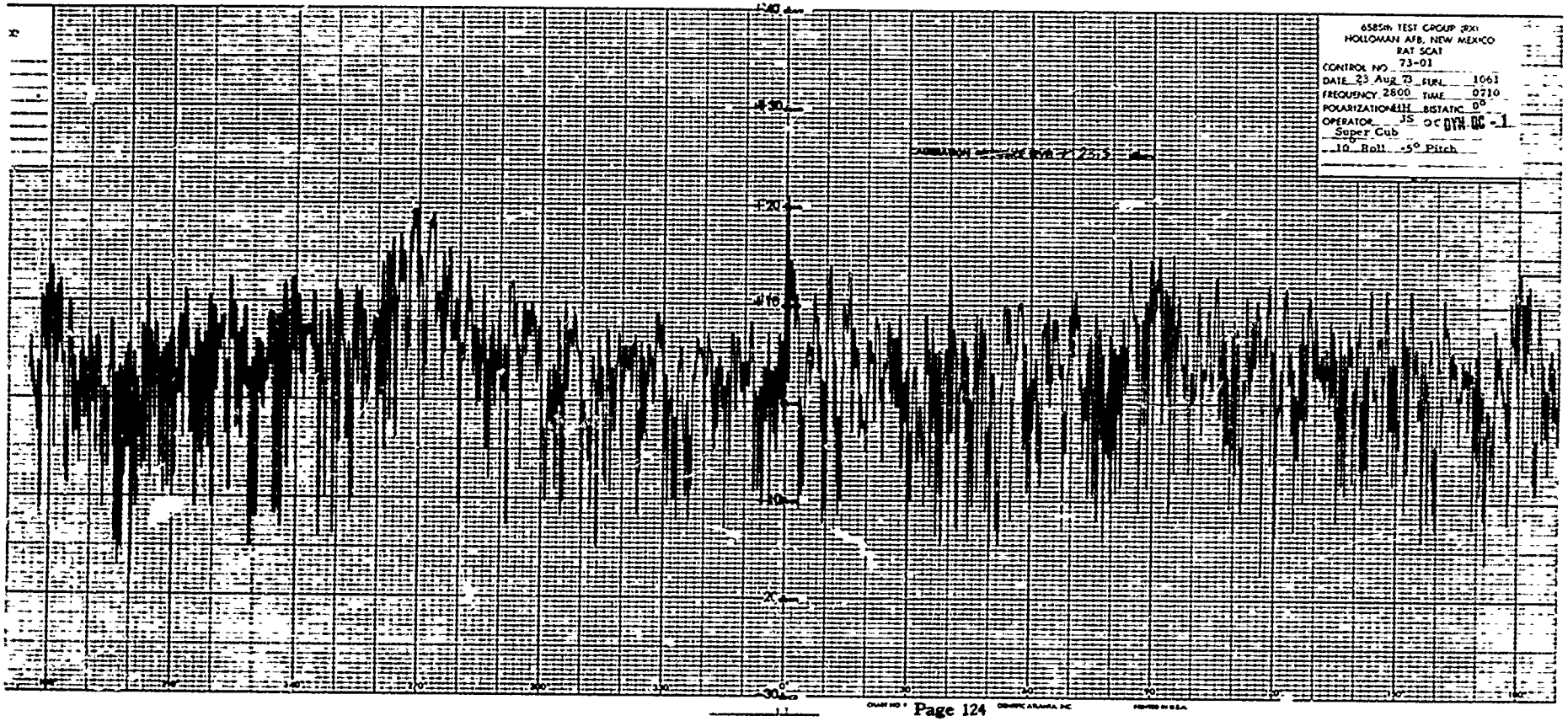

6585th TEST GROUP (PX)
HOLLOMAN AFB, NEW MEXICO
RAT SCAT
CONTROL NO 73-01
DATE 22 Aug 73 RUN 1939
FREQUENCY 2800 TIME 2000
POLARIZATION HH BISTATIC 0°
OPERATOR MM QC GYN QC-1
Super Cub
5° Roll -5° Pitch
-5°
-20
-10
0
10
20
30°

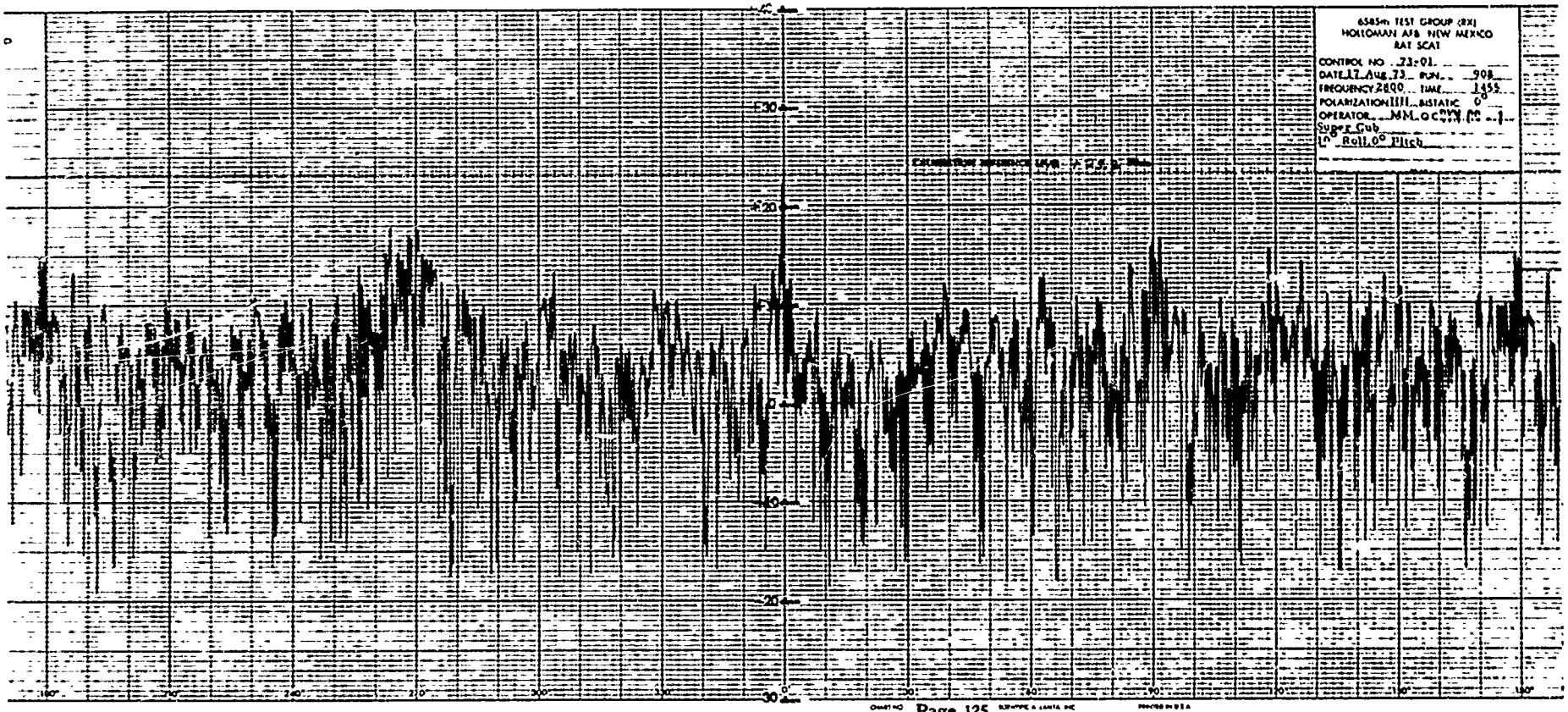

6585th TEST GROUP (RX)
HOLLOMAN AFB, NEW MEXICO
RAT SCAT
CONTROL NO 73-01
DATE 17 Aug 73 RUN 992
FREQUENCY 2800 TIME 1245
POLARIZATION HH BISTATIC 0°
OPERATOR JS QC DTK QC-1
Super Cub
5° Roll 0° Pitch
CALIBRATION REFERENCE LEVEL
+40
+30
+20
+10
0
-10
-20
-30
-9°

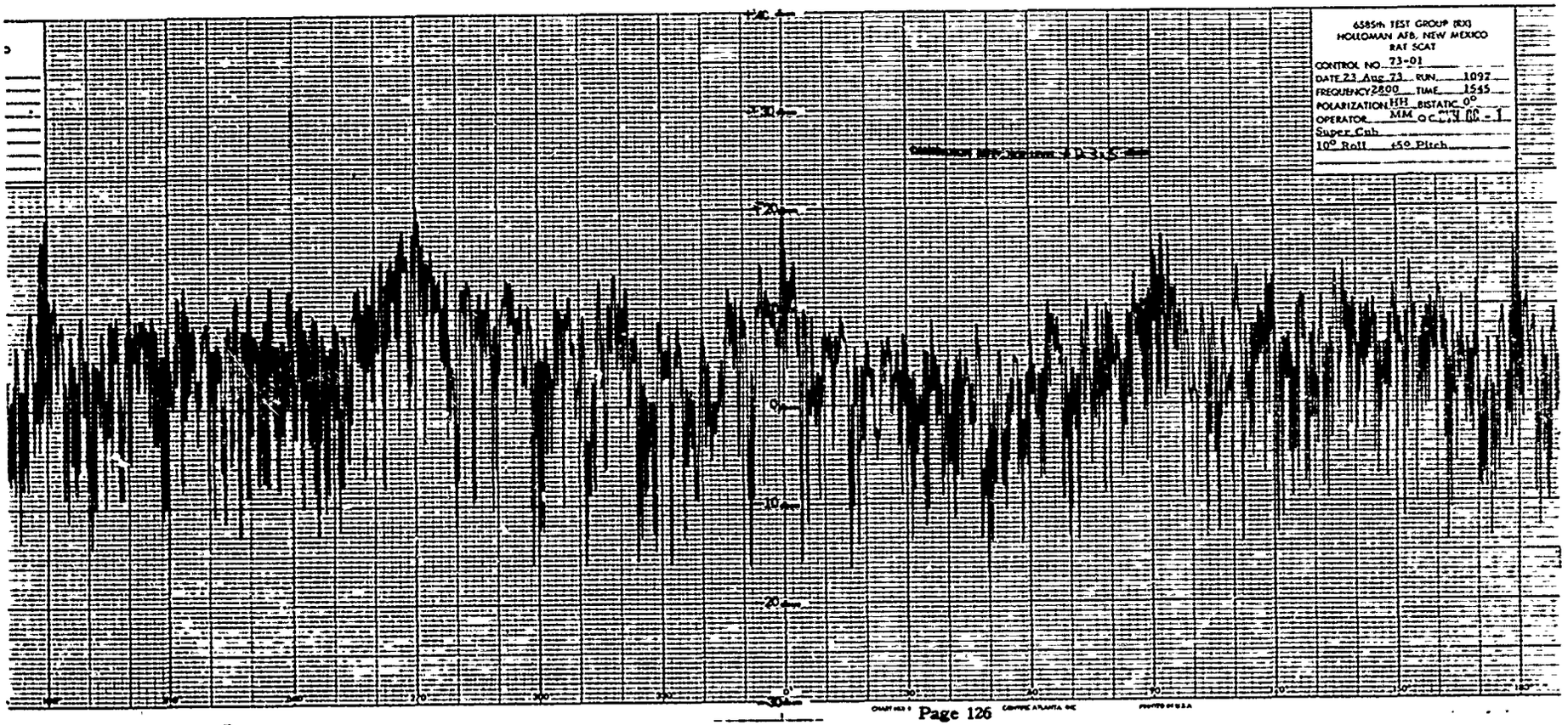

4583rd TEST GROUP (RX)
HOLLOMAN AFB, NEW MEXICO
AT SEAT
CONTROL NO. 73-01
DATE 23 Aug 73 RUN 1104
FREQUENCY 2800 TIME 1945
POLARIZATION HHL BISTATIC 0°
OPERATOR MM...O
Super Cub
±0° Roll ±5° Pitch
+30
+20
+10
0
-10
-20
-30°

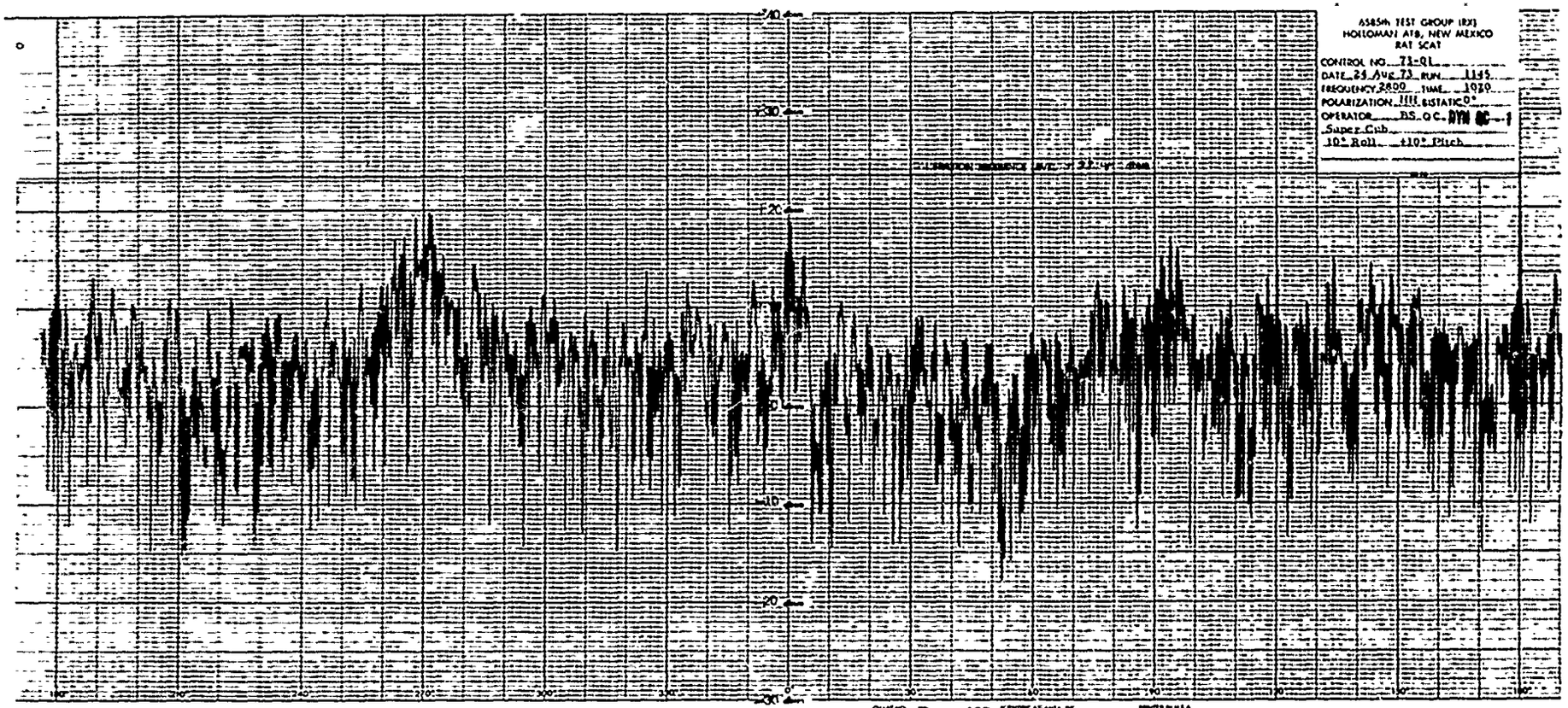

6585th TEST GROUP (RX)
HOLLOMAN AFB NEW MEXICO
RAT SCAT
CONTROL NO. 73-01
DATE 24 Aug 73 RUN 113R
FREQUENCY 2800 TIME 0840
POLARIZATION HH BISTATIC 0°
OPERATOR JS GC BYK HC
Super Cub
5° Roll, +10° Pitch
-40dBsm
-30dBsm
-20dBsm
-10dBsm
0dBsm
+10dBsm
+20dBsm
+30dBsm
0°
30°
60°
90°
120°
150°
180°

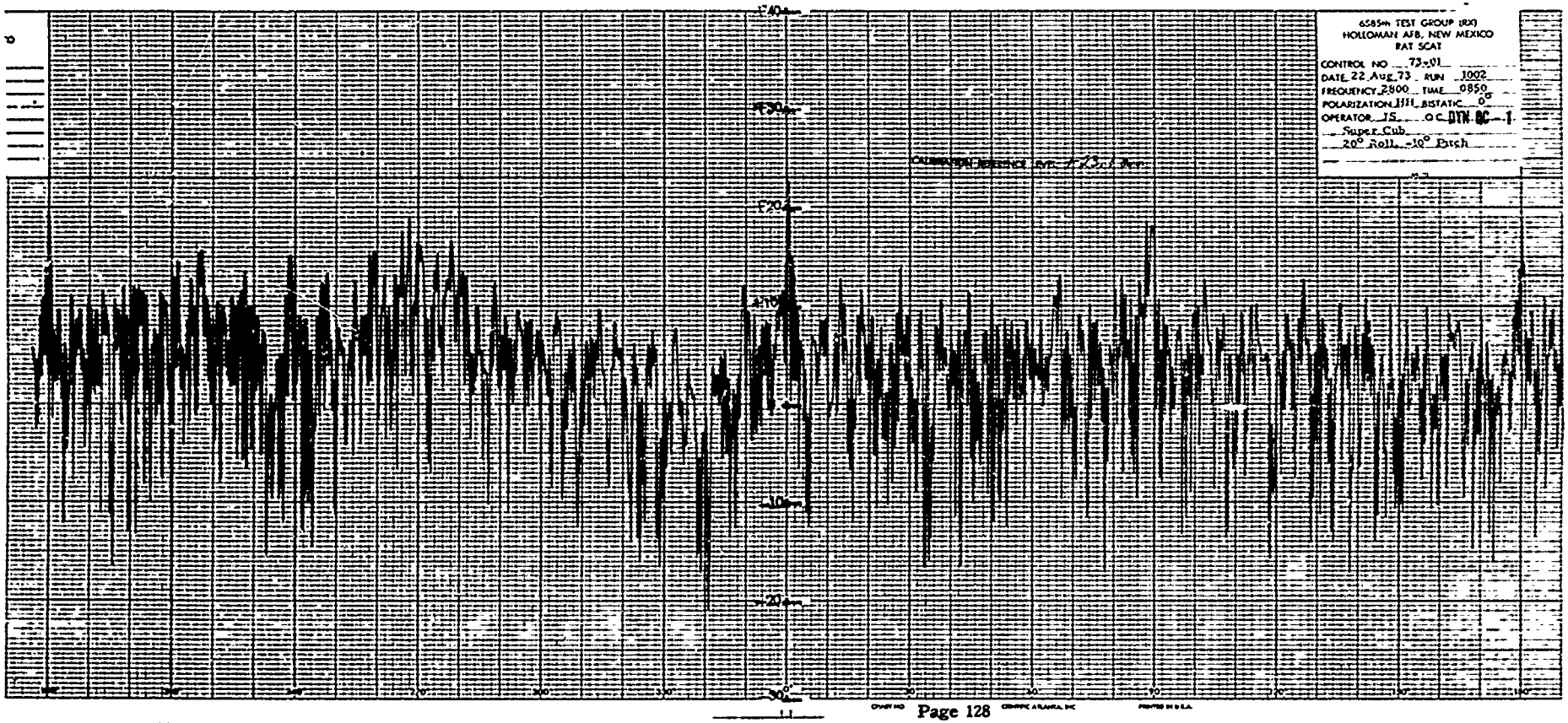

6585th TEST GROUP (RA)
HOLLOMAN AFB NEW MEXICO
RAT SCAT
CONTROL NO. 73-91
DATE 22 Aug 73 RUN 1012
FREQUENCY 5809 TIME 1230
POLARIZATION ||| ASTATIC 0°
OPERATOR JS O.C. DYN QC-1
Super Cub
10° Roll, -10° Pitch
+30
+20
+10
0
-10
-20
-30°

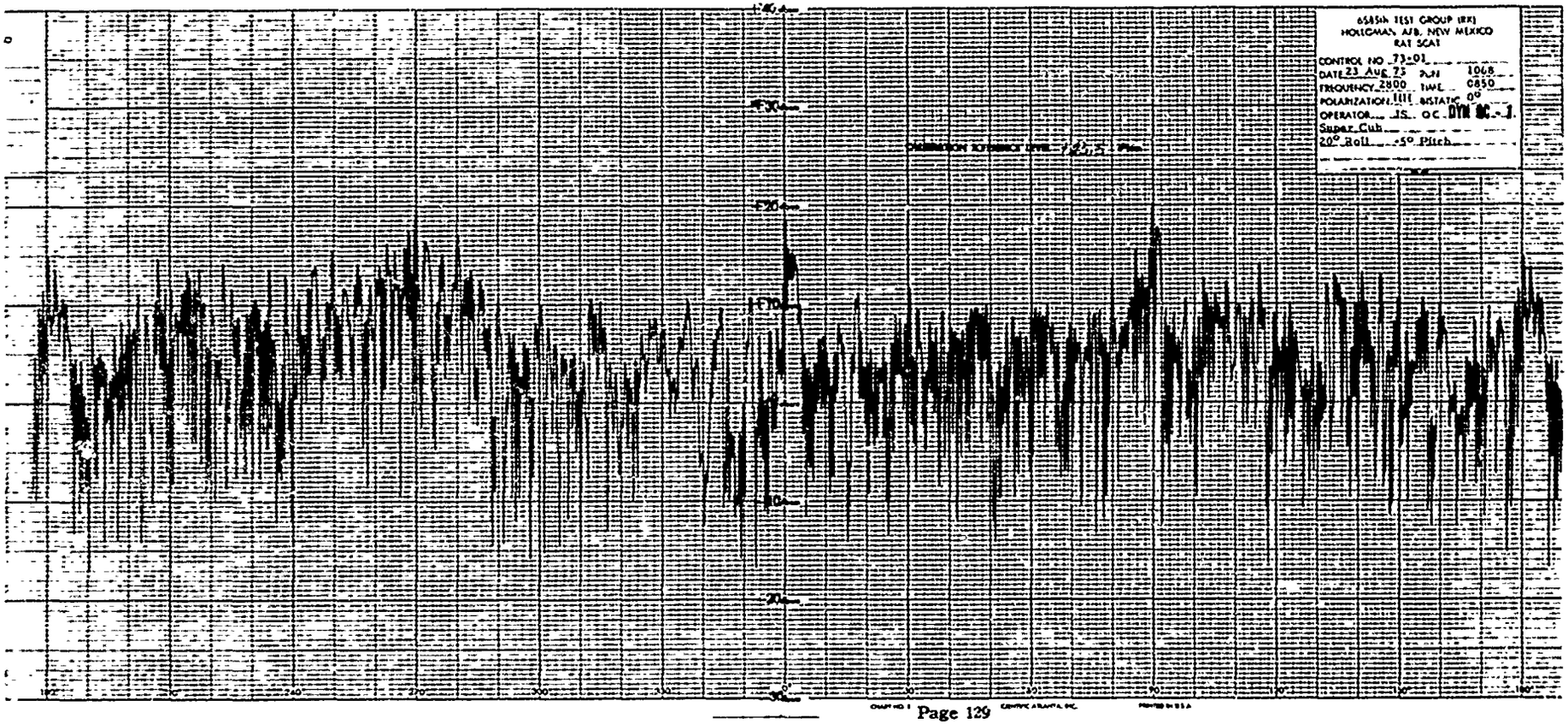

6585th TEST GROUP (PX)
HOLLOMAN AFB, NEW MEXICO
RAT SCAT
CONTROL NO 73-01
DATE 23 Aug 73 RUN 1061
FREQUENCY 2800 TIME 0710
POLARIZATION HH BISTATIC 0°
OPERATOR JS OC DYN RC -1
Super Cub
-10 Roll -5° Pitch
-40 dbsm
-30 dbsm
-20 dbsm
-10 dbsm
-0 dbsm
-30 dbsm
180°
150°
120°
90°
60°
30°
0°
30°
60°
90°

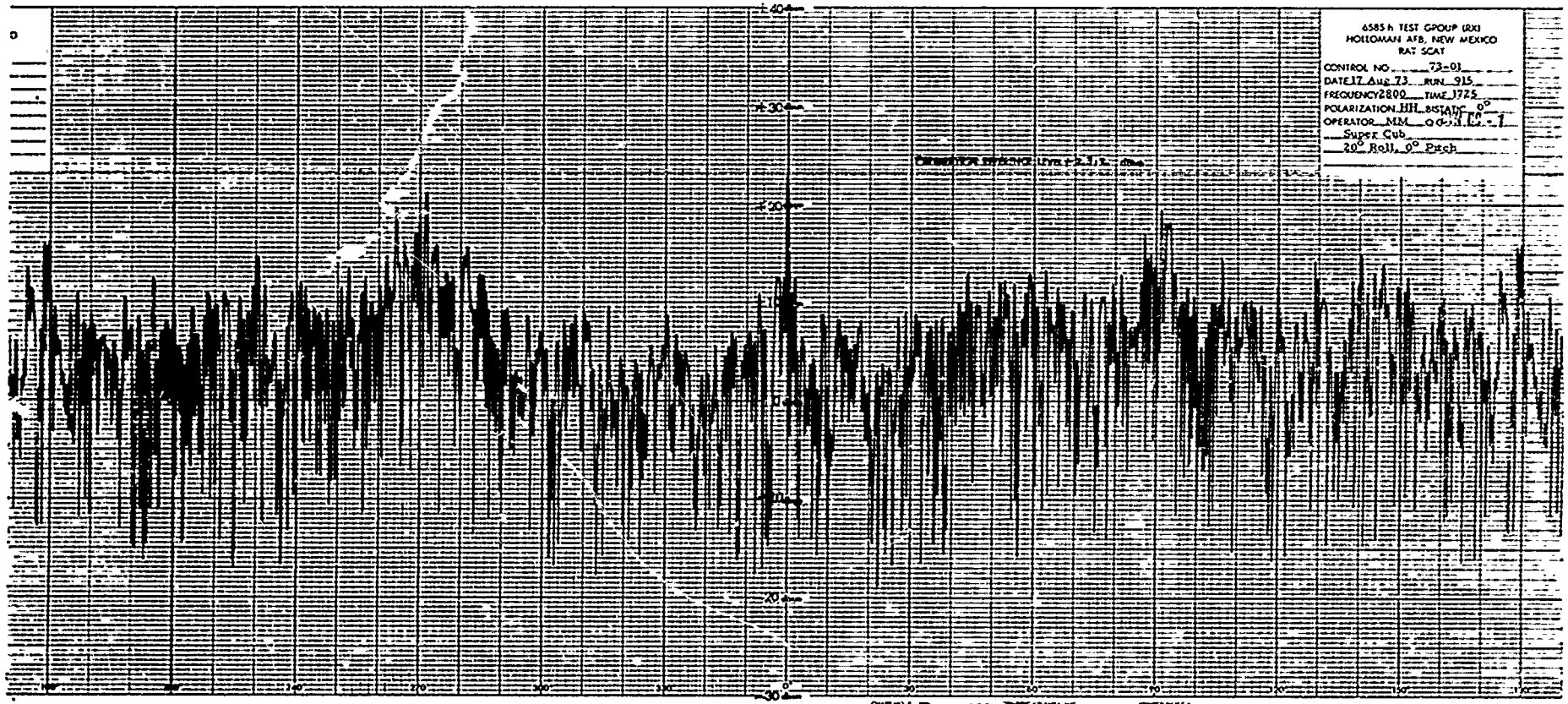

6585m TEST GROUP (RX)
HOLLOMAN AFB NEW MEXICO
RAT SCAT
CONTROL NO 73-01
DATE 17 Aug 73 RUN 908
FREQUENCY 2800 TIME 1455
POLARIZATION IIII BISTATIC 0°
OPERATOR MM. OCTN (C ...)
Super Cub
Ln Roll, 0° Pitch
+30
+20
+10
0
-10
-20
-30
180°
120°
60°
0°
-60
-120
-180

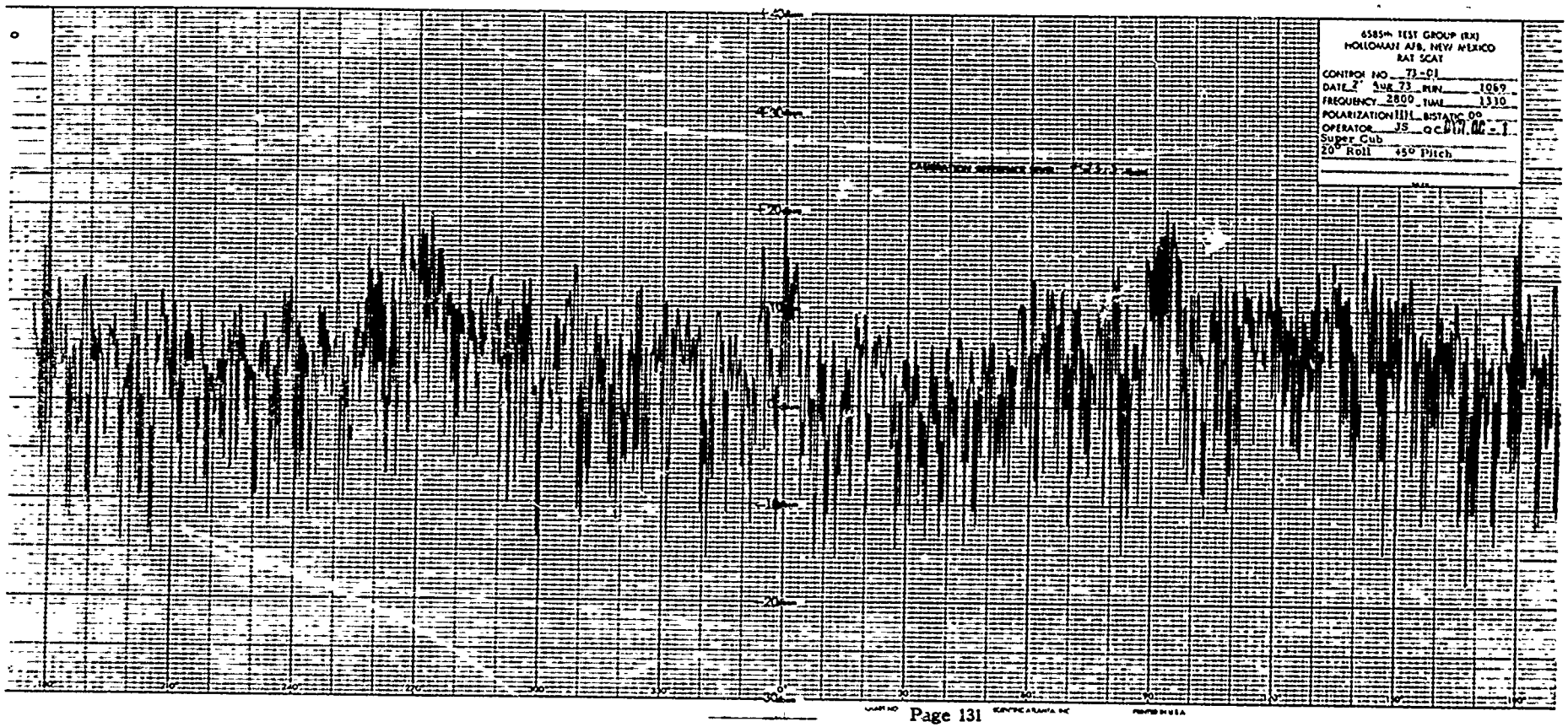

6585th TEST GROUP (RX)
HOLLOMAN AFB, NEW MEXICO
RAT SCAT
CONTROL NO. 73-01
DATE 23 Aug 73 RUN 1097
FREQUENCY 2800 TIME 1545
POLARIZATION HH BISTATIC 0°
OPERATOR MM OC-130 66-1
Super Cub
10° Roll +50 Pitch
+30
+20
0
-10
-20
-30

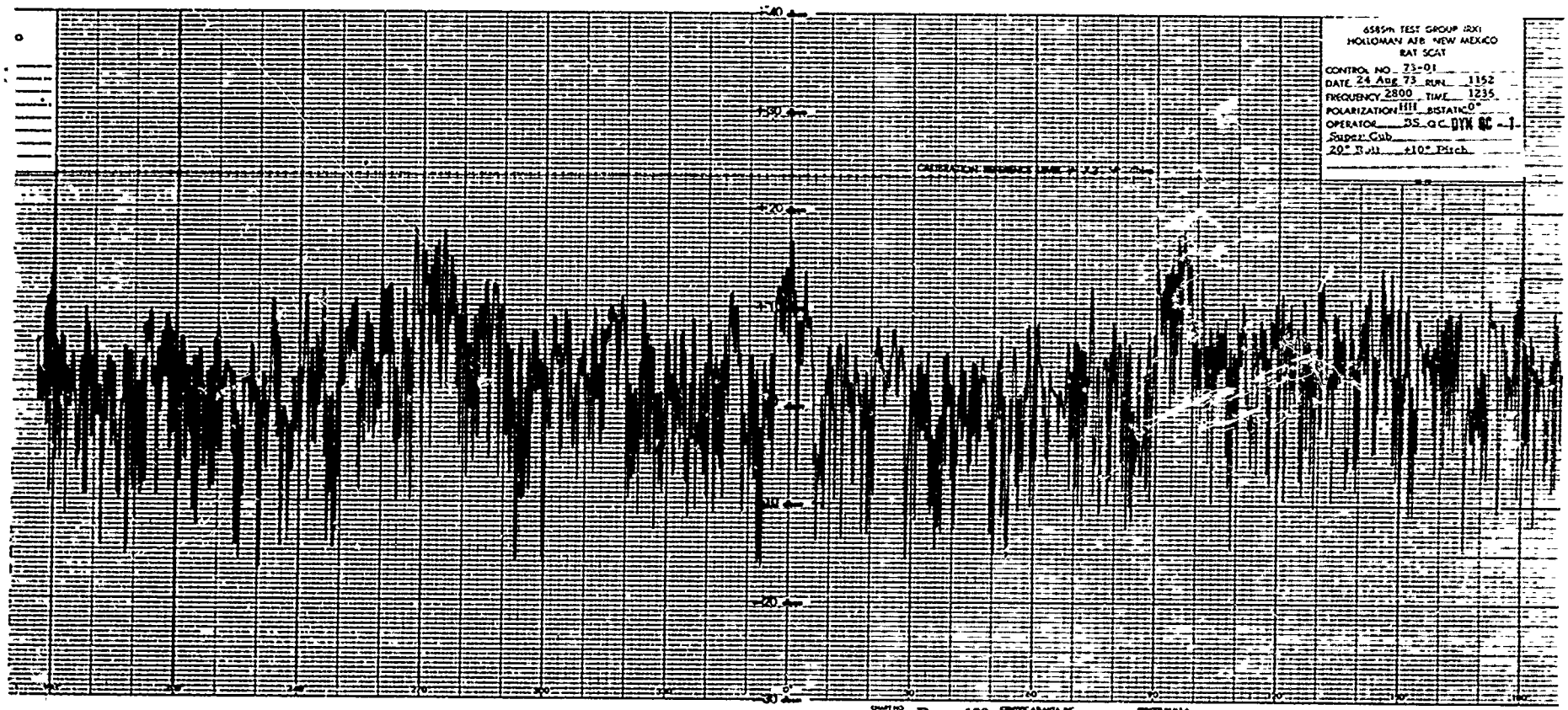

A585th TEST GROUP (RX)
HOLLOMAN AFB, NEW MEXICO
RAT SCAT
CONTROL NO. 73-01
DATE 29 Aug 73 RUN 1145
FREQUENCY 2800 TIME 1020
POLARIZATION HH BISTATIC 0°
OPERATOR BS QC
Super Cub
10° Roll ±10° Pitch
40
30
20
10
0
-10
-20
-30

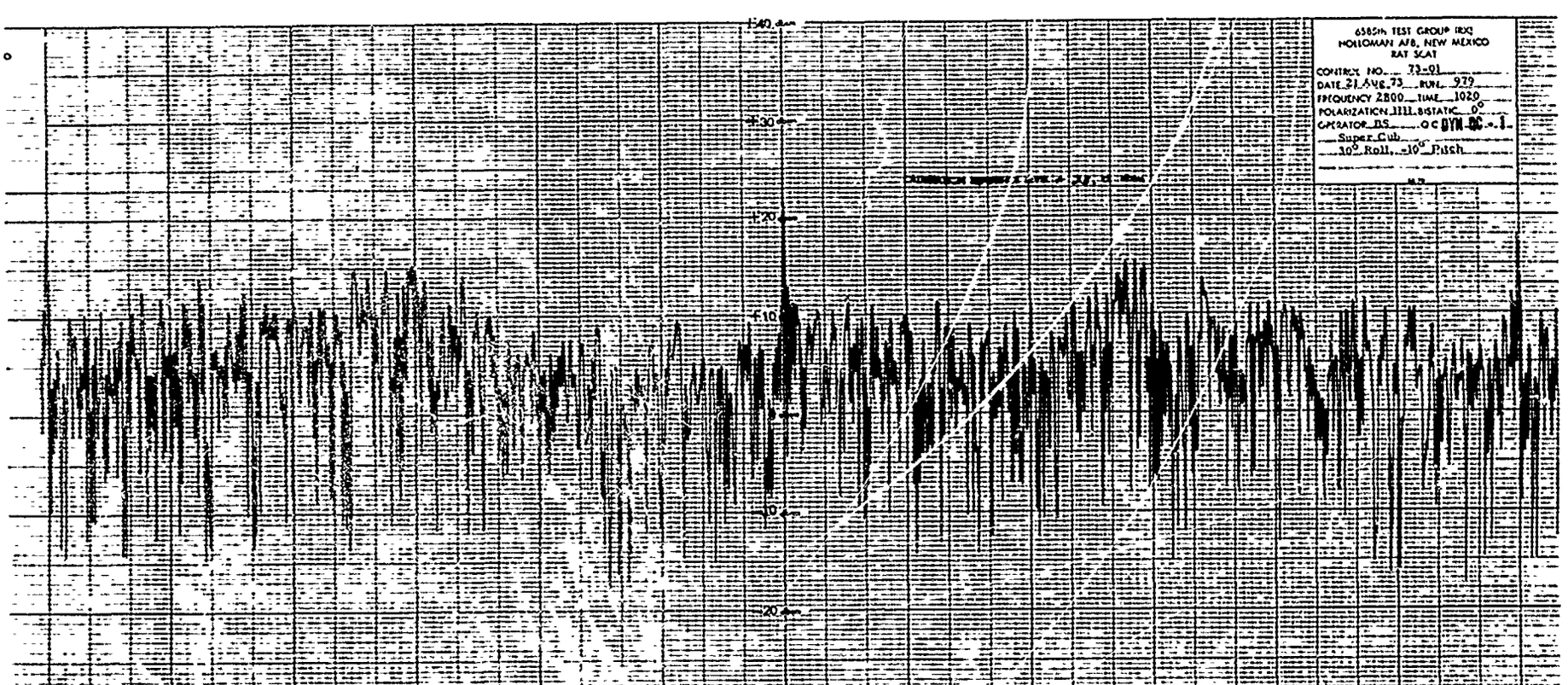

6585th TEST GROUP (RX)
HOLLOMAN AFB, NEW MEXICO
RAT SCAT
CONTROL NO 73-01
DATE 22 Aug 73 RUN 1002
FREQUENCY 2800 TIME 0850
POLARIZATION HH BISTATIC 0°
OPERATOR JS OC DTN 8C-1
Super Cub
20° Roll, -10° Pitch
+40
+30
+20
+10
-10
-20
-30
360°
30°
60°
90°
120°
150°
180°

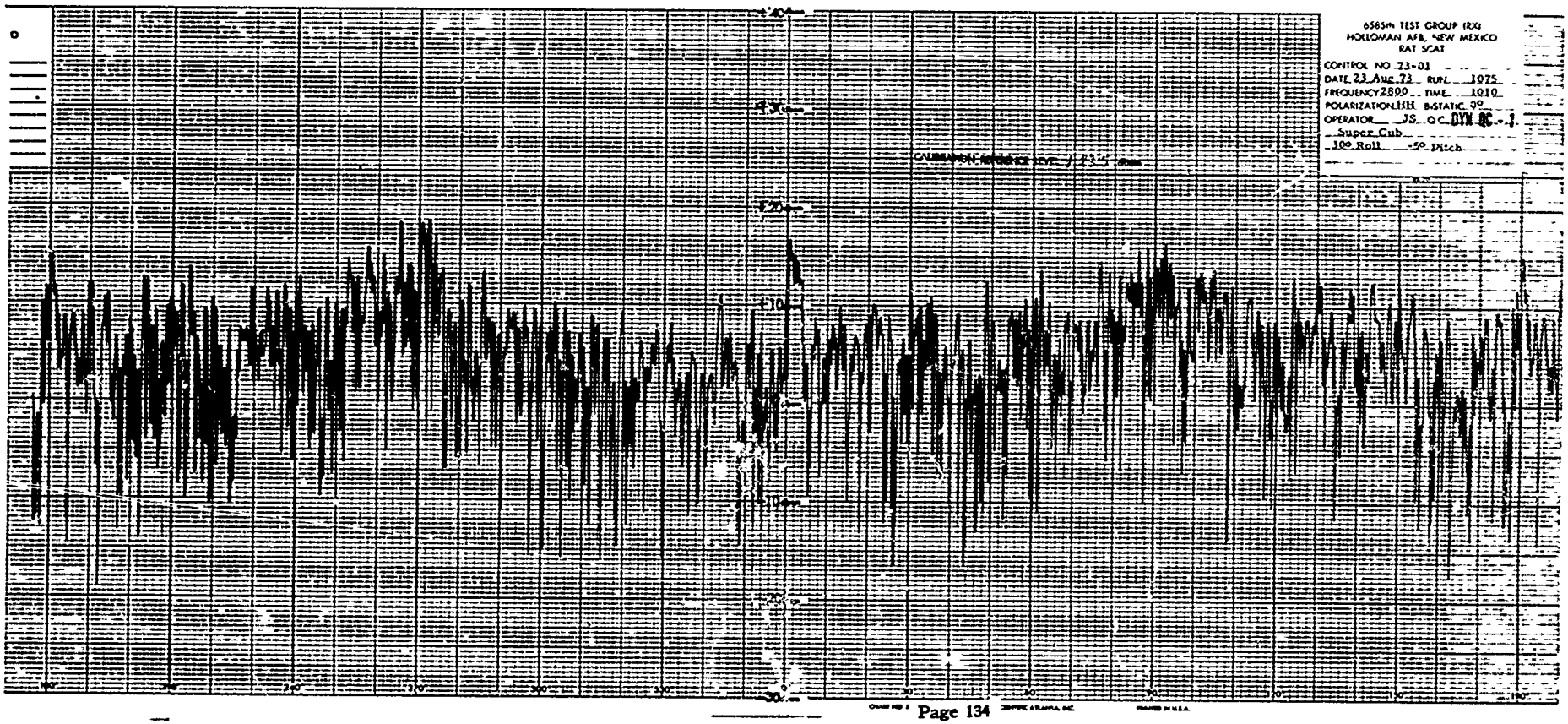

6585th TEST GROUP (RX)
HOLLOMAN AFB, NEW MEXICO
RAT SCAT
CONTROL NO 73-01
DATE 23 AUG 73 RUN 1068
FREQUENCY 2800 TIME 0850
POLARIZATION IIII BISTATIC 0°
OPERATOR JS OC DYN RC-1
Super Cub
20° Roll +5° Pitch
+30
+20
+10
0
-10
-20
-30
180
270
360
90
180

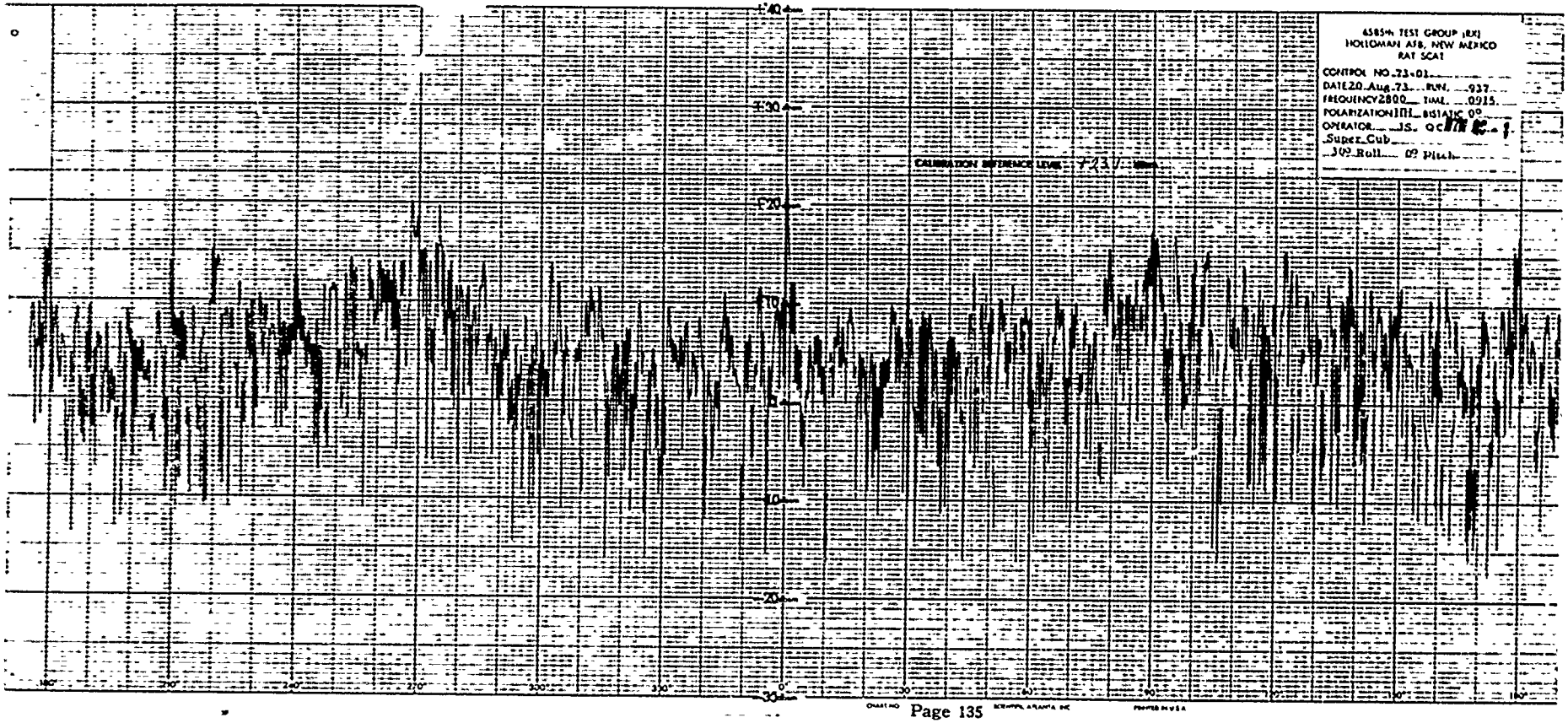

6585 h TEST GROUP (RX)
HOLLOMAN AFB, NEW MEXICO
RAT SCAT
CONTROL NO 73-01
DATE 17 Aug 73 RUN 915
FREQUENCY 2800 TIME 1725
POLARIZATION HH BISTATIC 0°
OPERATOR MM
Super Cub
20° Roll, 0° Pitch
40
30
20
10
0
-30
0°
30
60
90
120
150

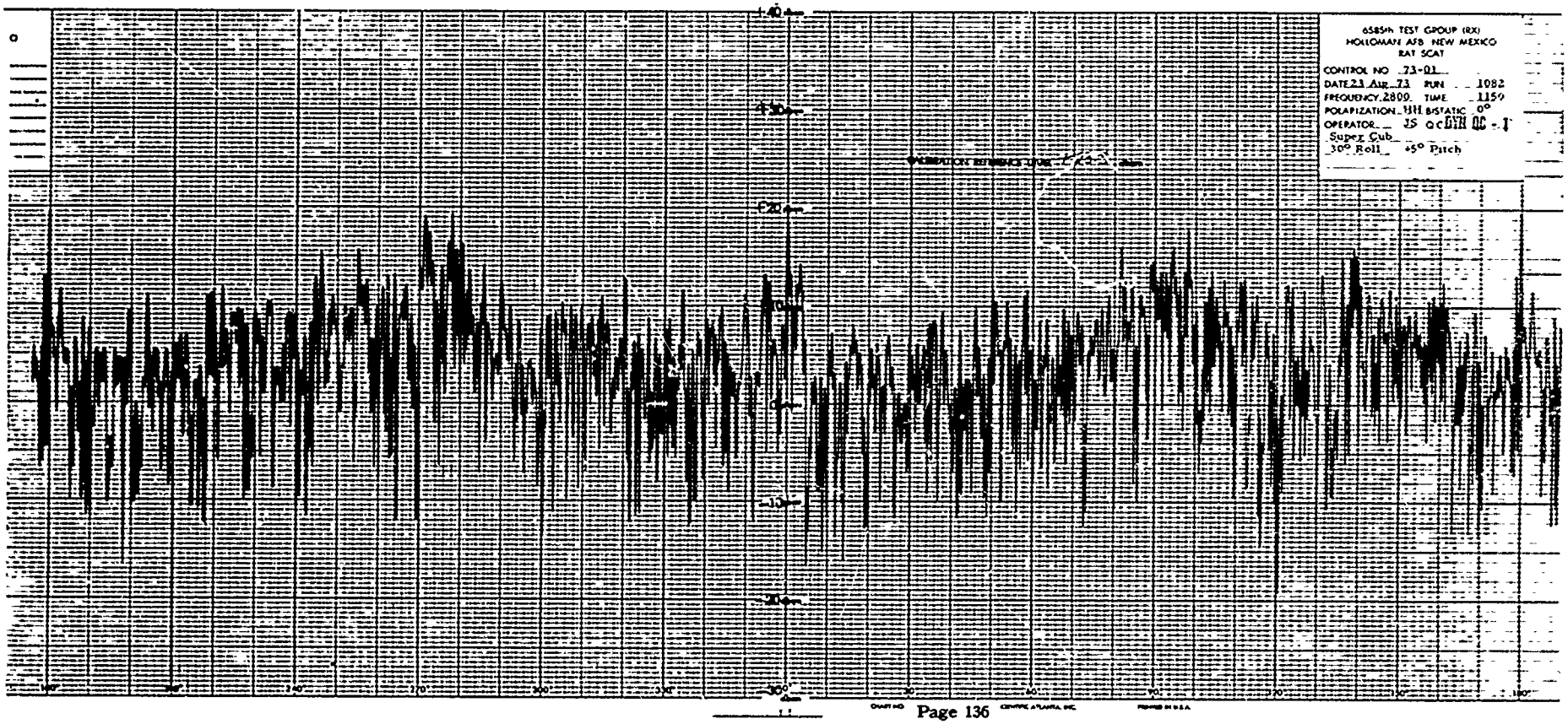

6585th TEST GROUP (RX)
HOLLOMAN AFB, NEW MEXICO
RAT SCAT
CONTROL NO 73-01
DATE 2 Aug 73 RUN 1069
FREQUENCY 2800 TIME 1330
POLARIZATION III BISTATIC 00
OPERATOR JS
Super Cub
20° Roll +5° Pitch
+30
+20
+10
0
-10
-20
-30
0°
30
60
90
120
150
180

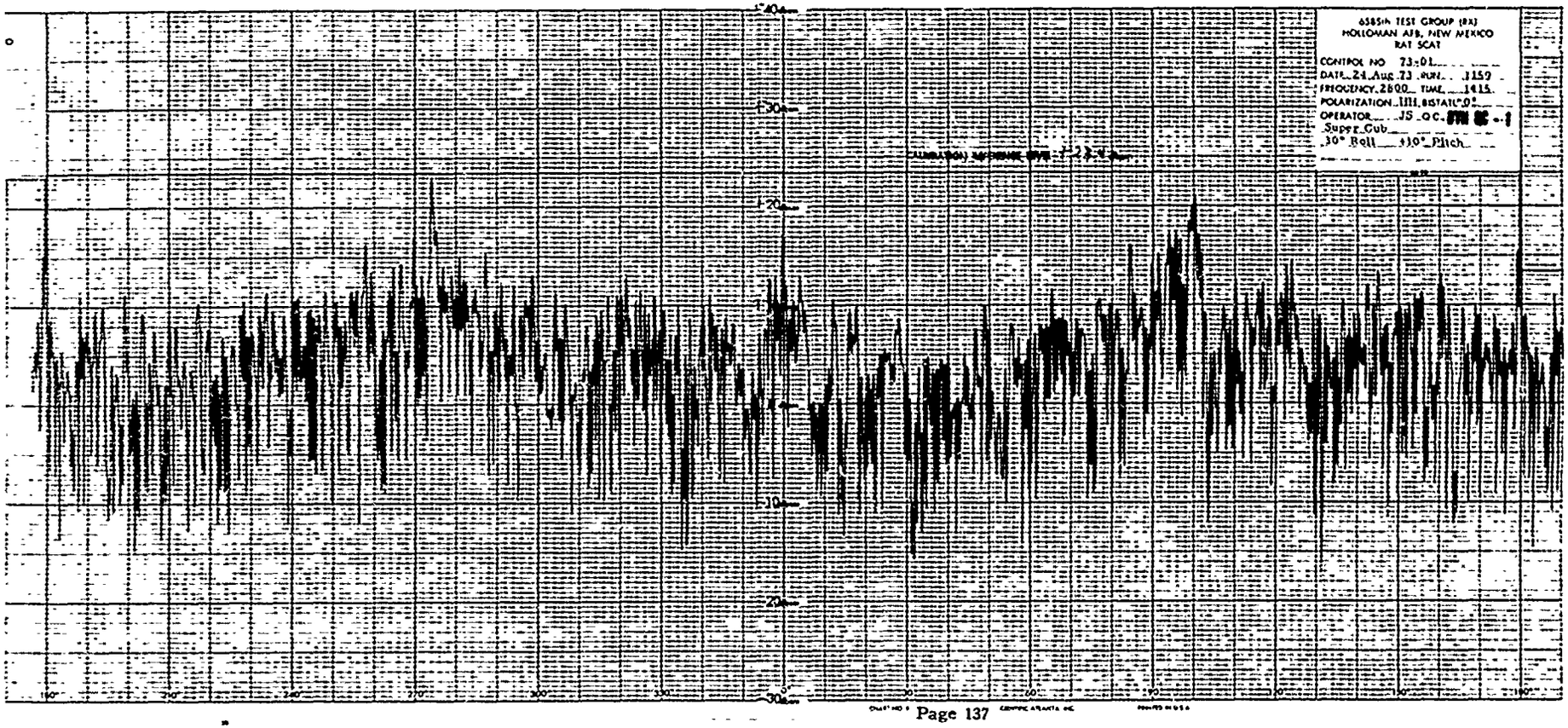

6585th TEST GROUP (RX)
HOLLOMAN AFB NEW MEXICO
RAT SCAT
CONTROL NO 73-01
DATE 24 Aug 73 RUN 1152
FREQUENCY 2800 TIME 1235
POLARIZATION HHH BISTATIC 0°
OPERATOR 3S gc DYN QC -1
Super Cub
20° Roll ±10° Pitch

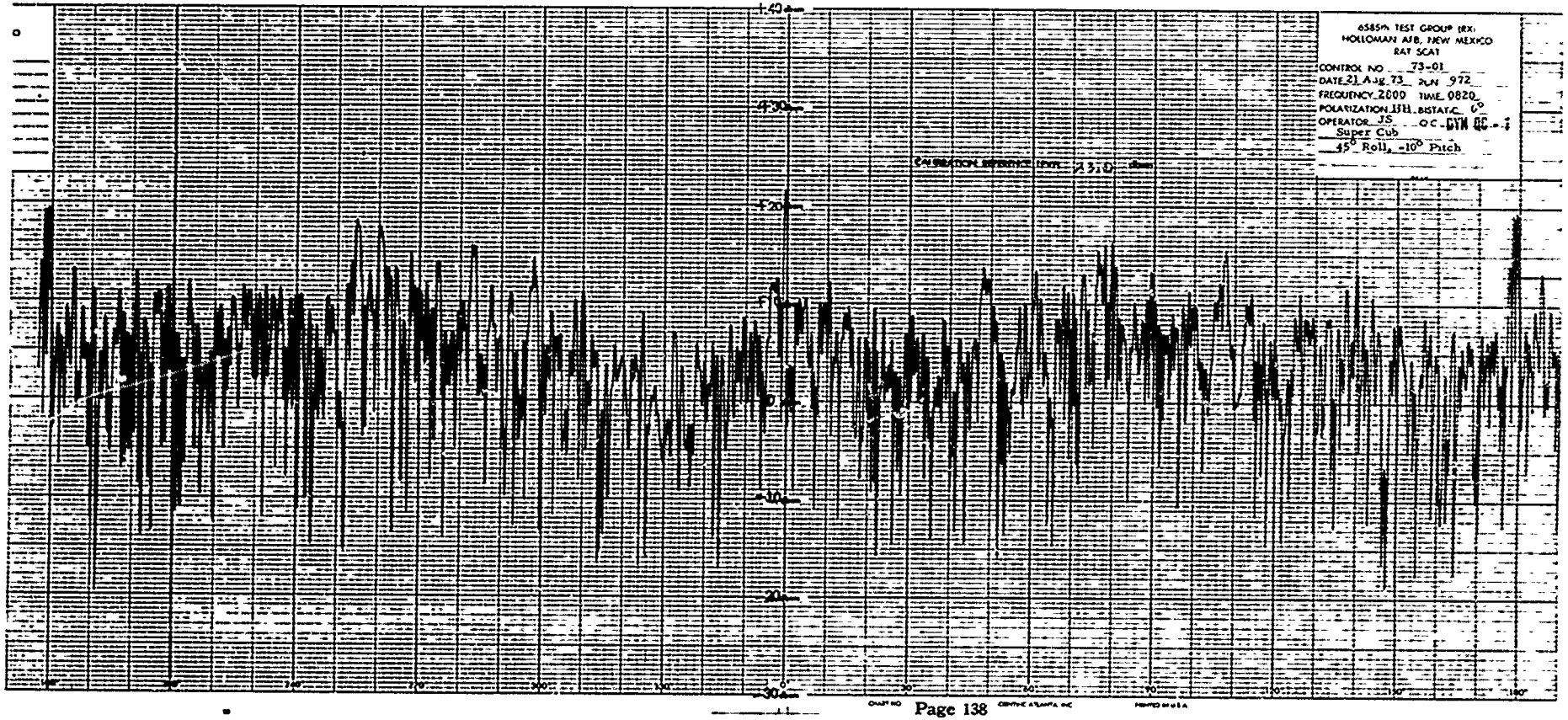

6585th TEST GROUP (RX)
HOLLOMAN AFB, NEW MEXICO
RAT SCAT
CONTROL NO. 73-01
DATE 21 AUG 73 RUN 979
FREQUENCY 2800 TIME 1020
POLARIZATION IIII BISTATIC 0°
OPERATOR DS OC DYN OC -1
Super Cub
30° Roll, -10° Pitch
+40 dBsm
+30
+20
+10
0
-10
-20
-30 dBsm

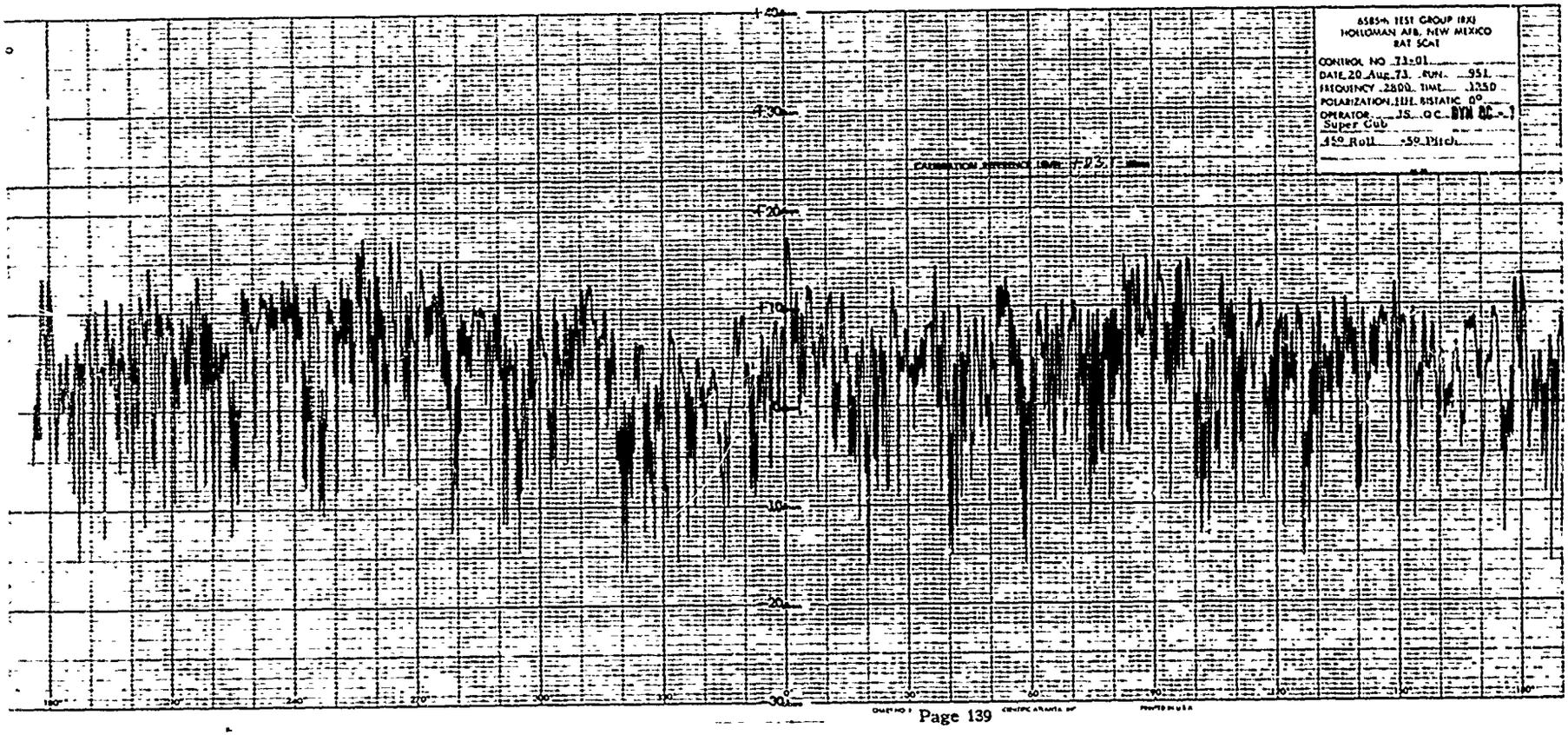

6585th TEST GROUP (RX)
HOLLOMAN AFB, NEW MEXICO
RAT SCAT
CONTROL NO 73-01
DATE 23 Aug 73 RUN 1075
FREQUENCY 2800 TIME 1010
POLARIZATION HH BISTATIC 0°
OPERATOR JS, QC DYN RC-1
Super Cub
-30° Roll -5° Pitch

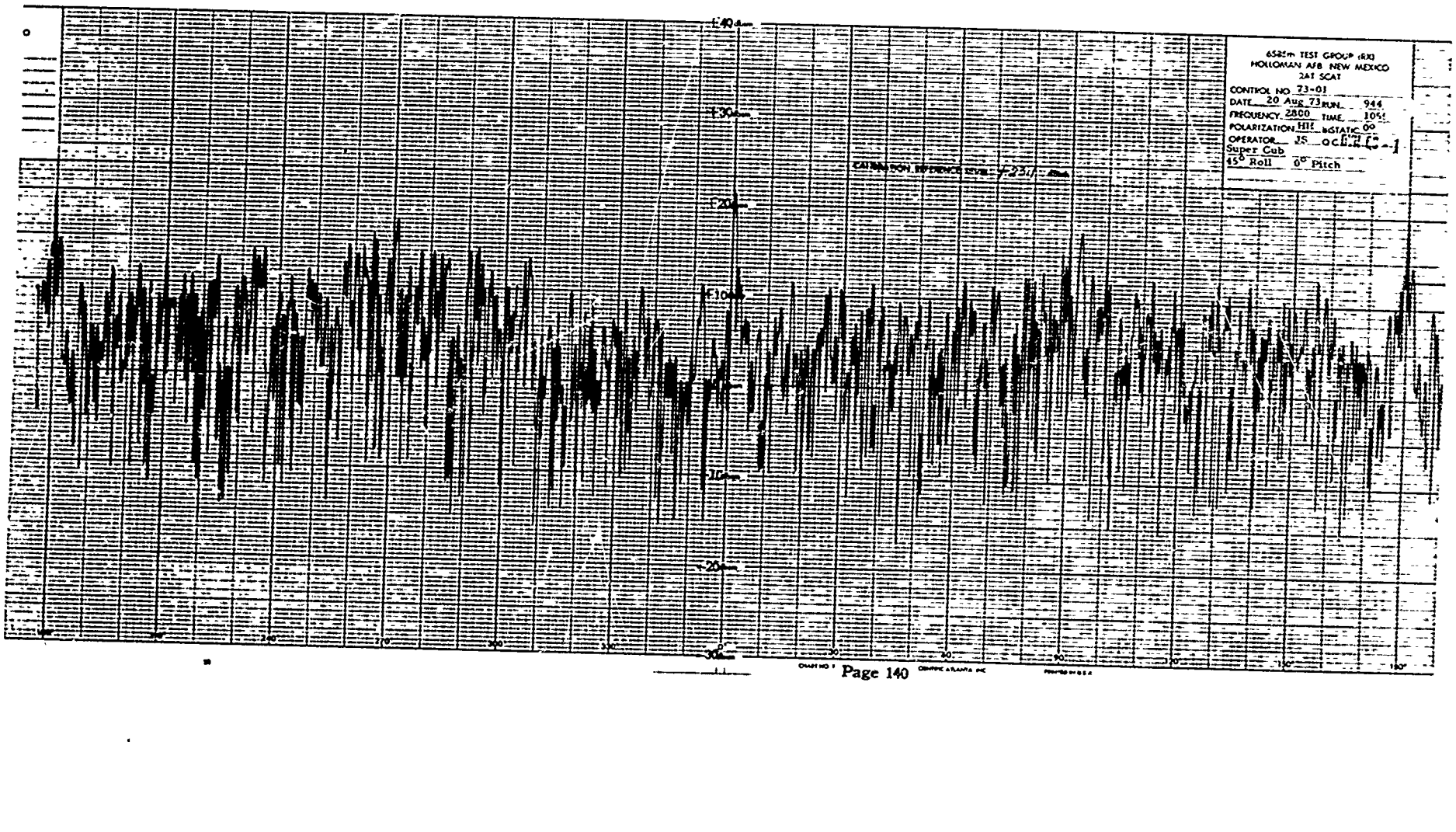

6585th TEST GROUP (RX)
HOLLOMAN AFB, NEW MEXICO
RAT SCAT
CONTROL NO. 73-01
DATE 20 Aug 73 RUN 937
FREQUENCY 2800 TIME 0915
POLARIZATION HH BISTATIC 0°
OPERATOR J.S. OC
Super Cub
309 Roll 0° Pitch
CALIBRATION REFERENCE LEVEL -73.1 dBsm
+40
+30
+20
+10
0
-10
-20
-30
180°
210°
240°
270°
300°
330°
0°
30
60
90
120
150
180°

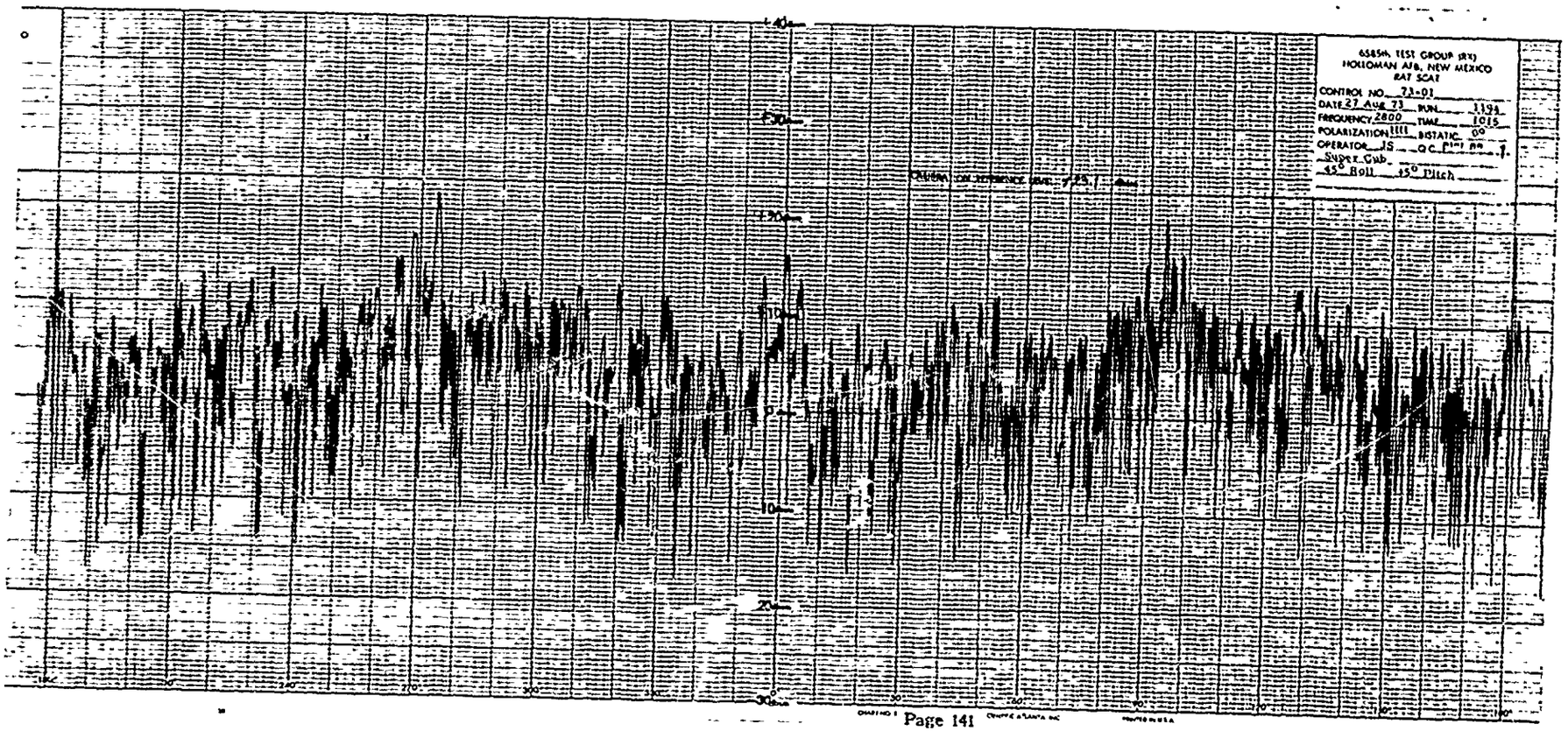

6585th TEST GROUP (RX)
HOLLOMAN AFB NEW MEXICO
RAT SCAT
CONTROL NO 73-01
DATE 23 Aug 73 RUN 1082
FREQUENCY 2800 TIME 1159
POLARIZATION HH BISTATIC 0°
OPERATOR JS
Super Cub
30° Roll +5° Pitch
+40
+30
+20
+10
0
-10
-20
-30
-40

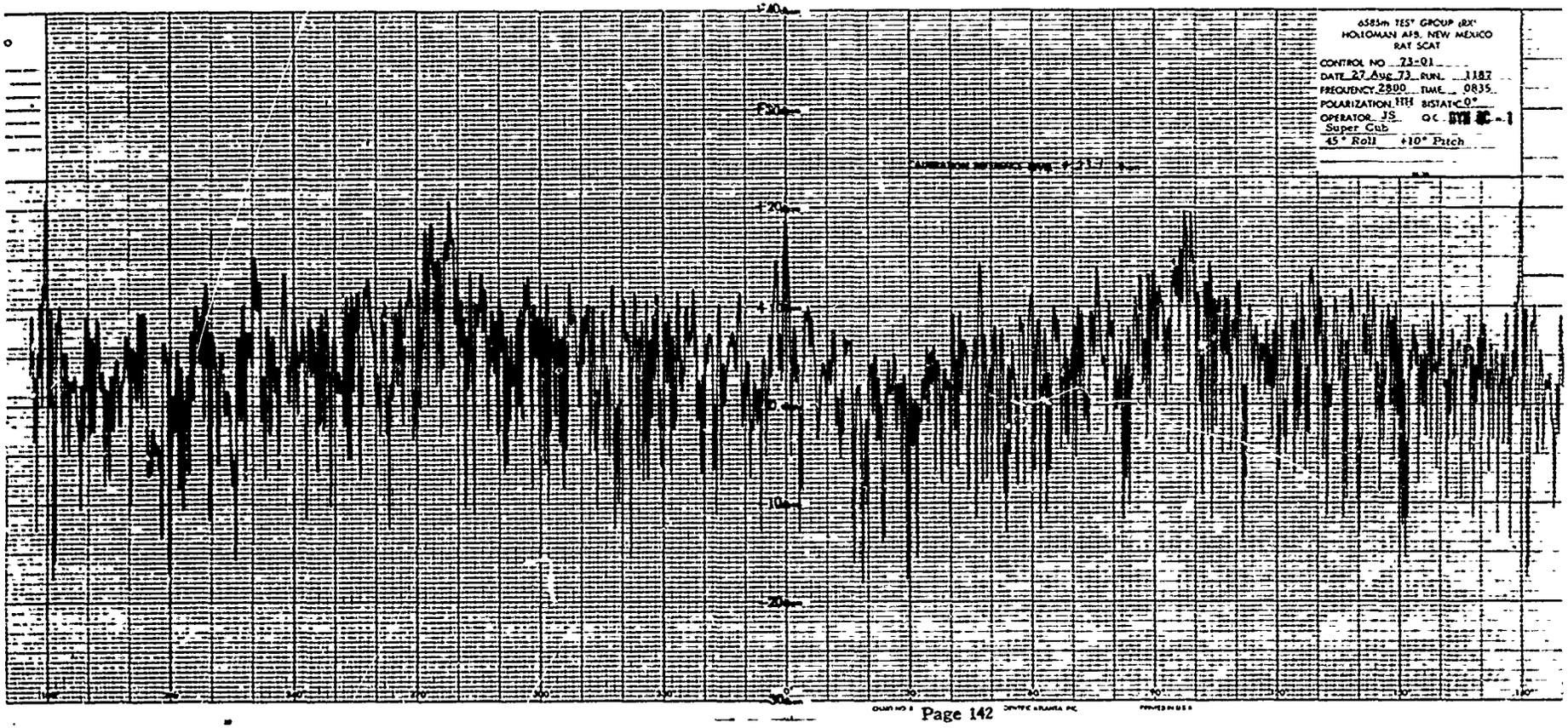

6585th TEST GROUP (RA)
HOLLOMAN AFB, NEW MEXICO
RAT SCAT
CONTROL NO 73-01
DATE 24 Aug 73 RUN 1159
FREQUENCY 2800 TIME 1415
POLARIZATION LIN BISTATIC 0°
OPERATOR JS OC
Super Cub
30° Roll 10° Pitch
-40
-30
-20
-10
0
20
-30

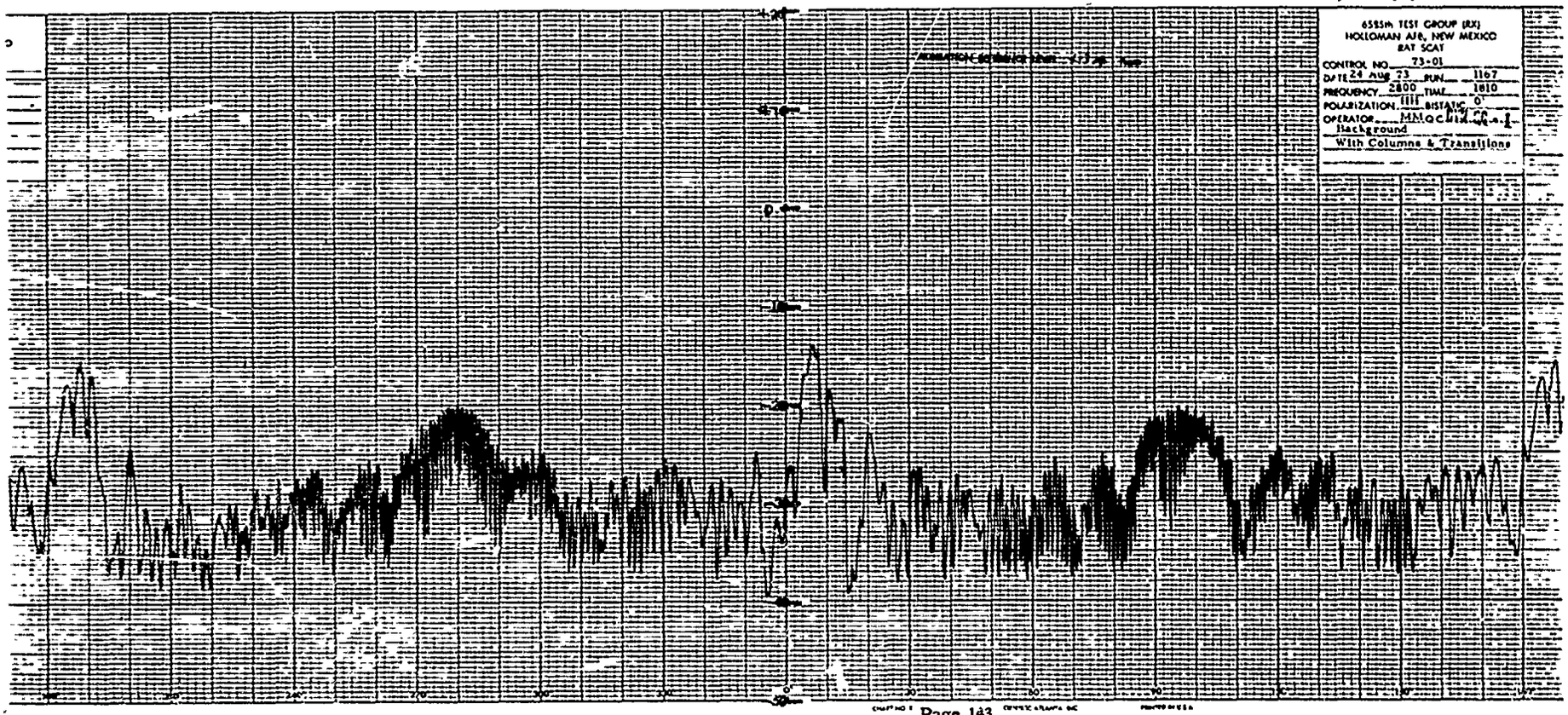

6585th TEST GROUP (RX)
HOLLOMAN AFB, NEW MEXICO
RAT SCAT
CONTROL NO 73-01
DATE 21 Aug 73 RUN 972
FREQUENCY 2000 TIME 0820
POLARIZATION HH BISTATIC 0°
OPERATOR JS OC GYN BC - 1
Super Cub
45° Roll, -10° Pitch
CALIBRATION REFERENCE 10dBm 23.0 dBsm
+40
+30
+20
+10
0
-10
-20
-30
30
50
70
90
180°

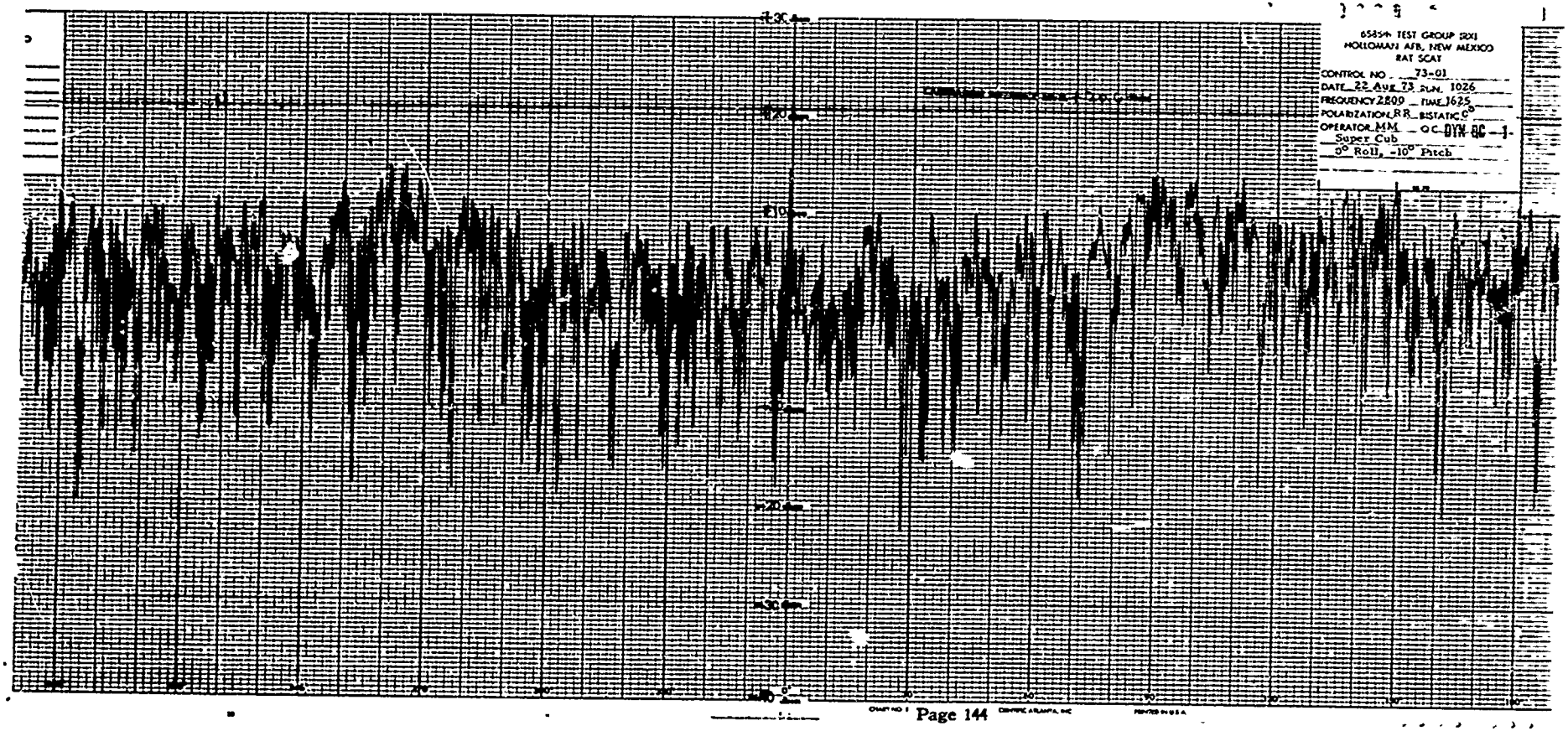

6585th TEST GROUP (RX)
HOLLOMAN AFB, NEW MEXICO
RAT SCAT
CONTROL NO 73-01
DATE 20 Aug 73 RUN 951
FREQUENCY 2800 TIME 1350
POLARIZATION HH BISTATIC 0°
OPERATOR JS OC BYN BC-1
Super Cub
45° Roll +59 Pitch
CALIBRATION REFERENCE LEVEL -103 dBsm
+40dBsm
+30dBsm
+20dBsm
+10dBsm
0dBsm
-10dBsm
-20dBsm
-30dBsm
180°
210°
240°
270°
300°
330°
0°
30°
60°
90°
120°
150°
180°

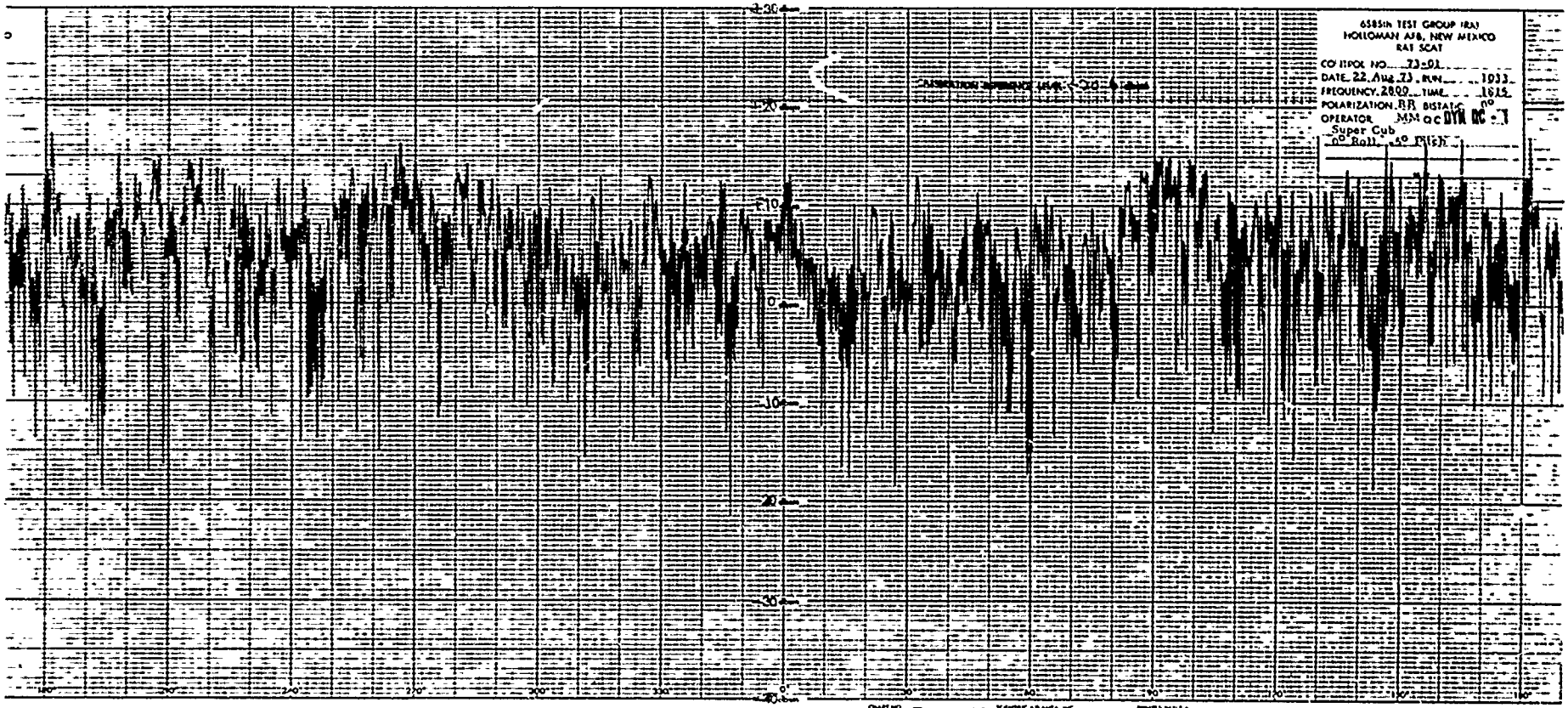

6525m TEST GROUP (RX)
HOLLOMAN AFB NEW MEXICO
2AT SCAT
CONTROL NO 73-01
DATE 20 Aug 73 RUN 944
FREQUENCY 2800 TIME 1051
POLARIZATION HH BISTATIC 00
OPERATOR JS
Super Cub
45° Roll 0° Pitch
-40
-30
-20
-10
-20
-30
90
180

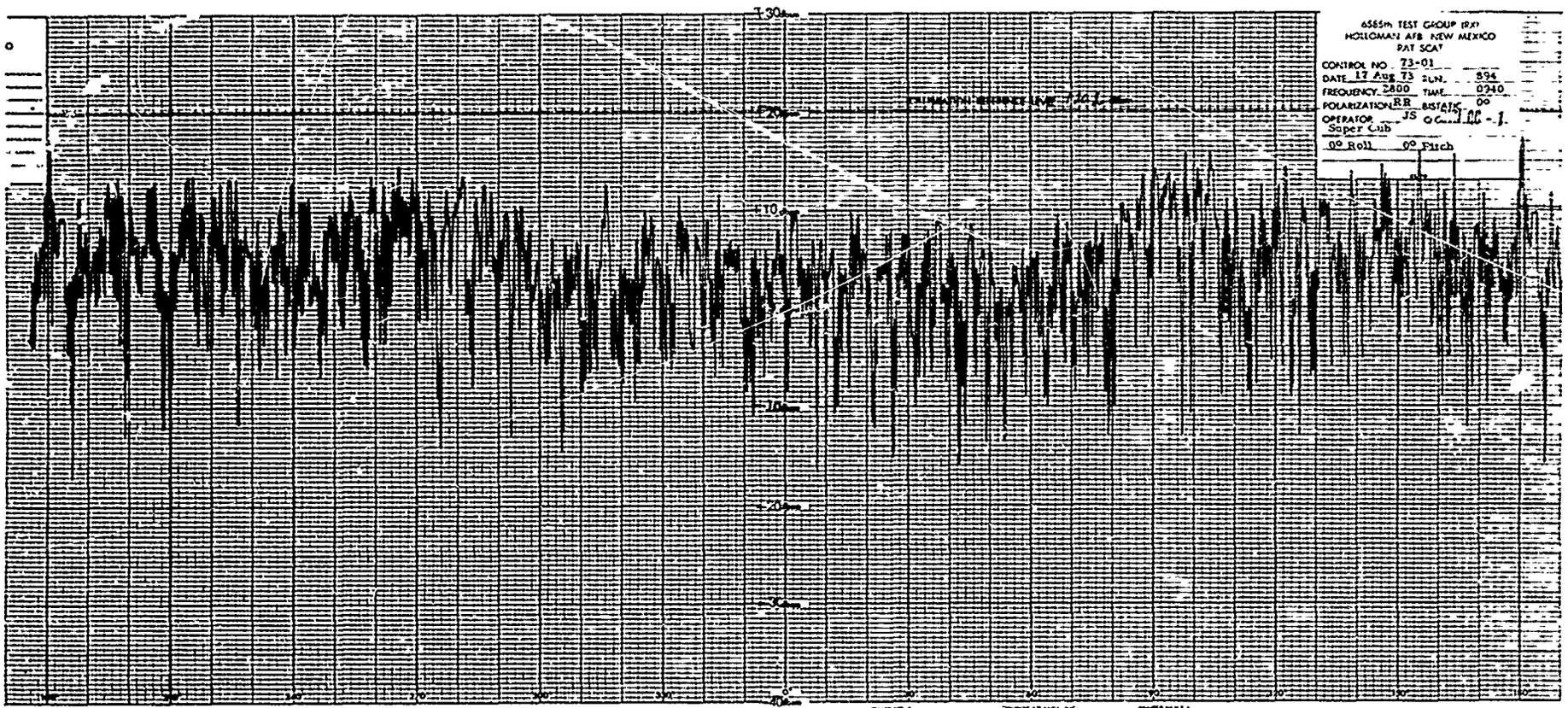

6585th TEST GROUP (RT)
HOLLOMAN AFB, NEW MEXICO
RAT SCAT
CONTROL NO. 73-01
DATE 27 Aug 73 RUN 1194
FREQUENCY 2800 TIME 1015
POLARIZATION IIII BISTATIC 00
OPERATOR JS QC
Super Cub
45° Roll ±5° Pitch
+40
+30
+20
+10
0
-10
-20
-30
0°
30°
60°
90°

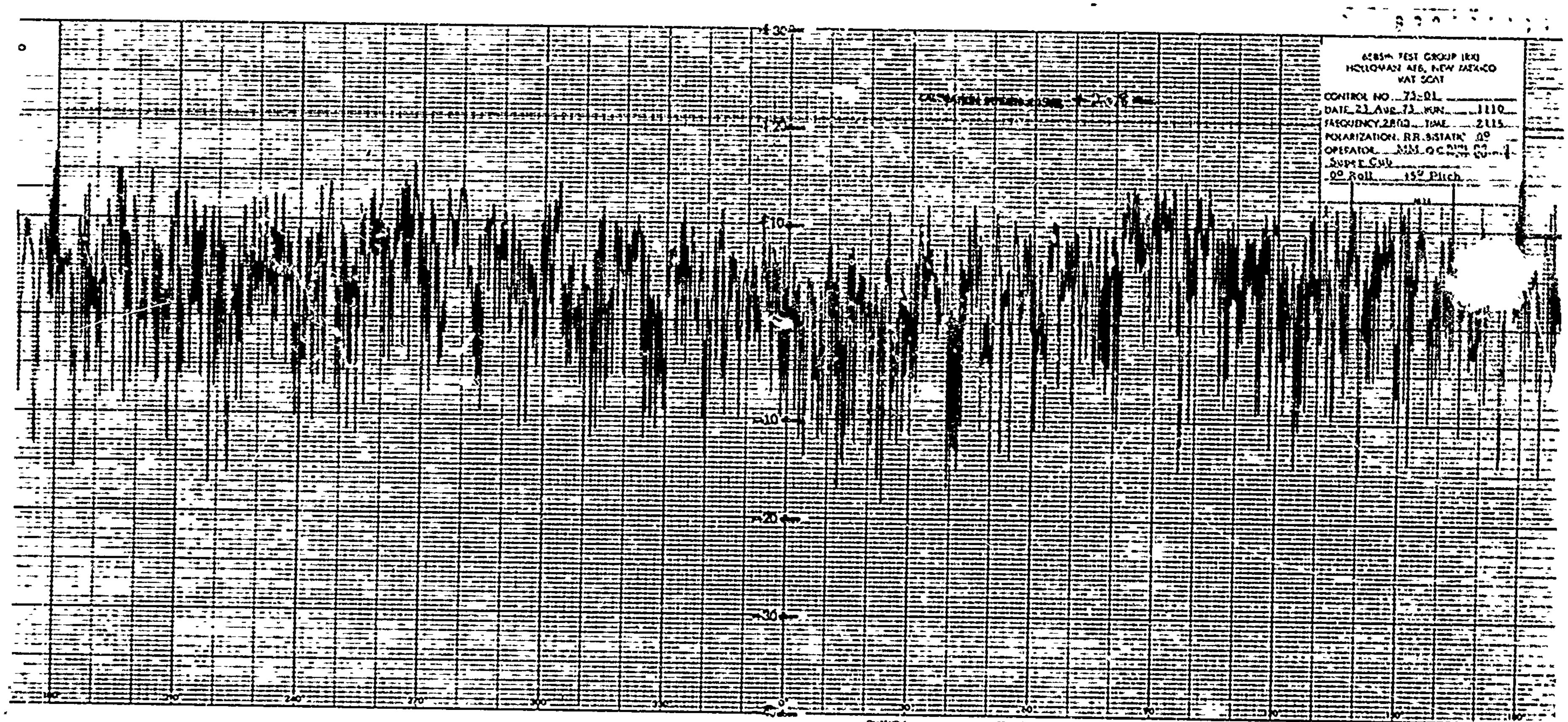

6585m TES' GROUP (RX'
HOLLOMAN AFB, NEW MEXICO
RAT SCAT
CONTROL NO 73-01
DATE 27 Aug 73 RUN 1187
FREQUENCY 2800 TIME 0835
POLARIZATION HH BISTATIC 0°
OPERATOR JS QC
Super Cub
45° Roll +10° Pitch
+40dBm
+30dBm
+20dBm
+10dBm
0dBm
-10dBm
-20dBm
-30dBm

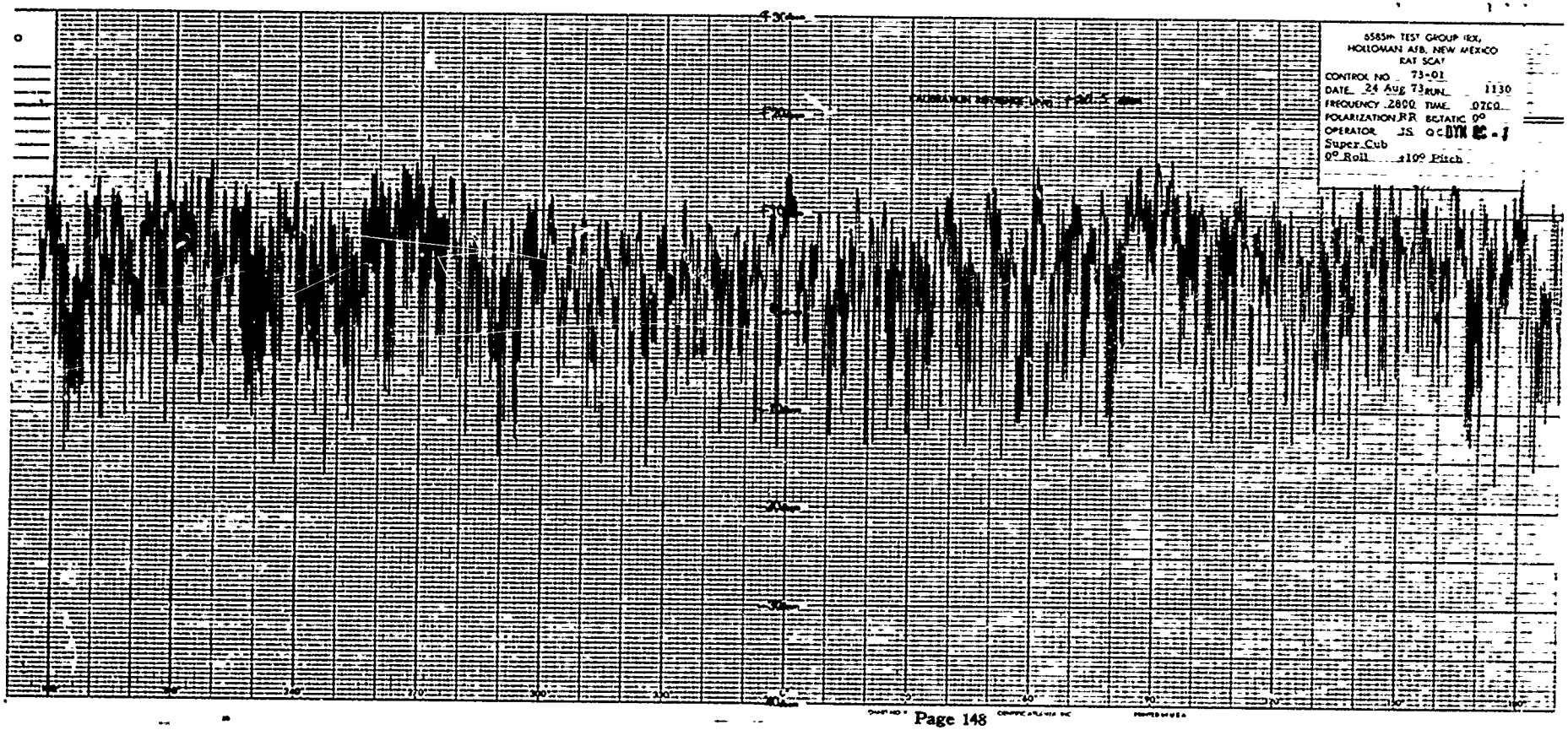

6585th TEST GROUP (RX)
HOLLOMAN AFB, NEW MEXICO
BAT SCAT
CONTROL NO. 73-01
DATE 24 AUG 73 RUN 1167
FREQUENCY 2800 TIME 1810
POLARIZATION 1111 BISTATIC 0°
OPERATOR MMLochin
Background
With Columns & Transitions

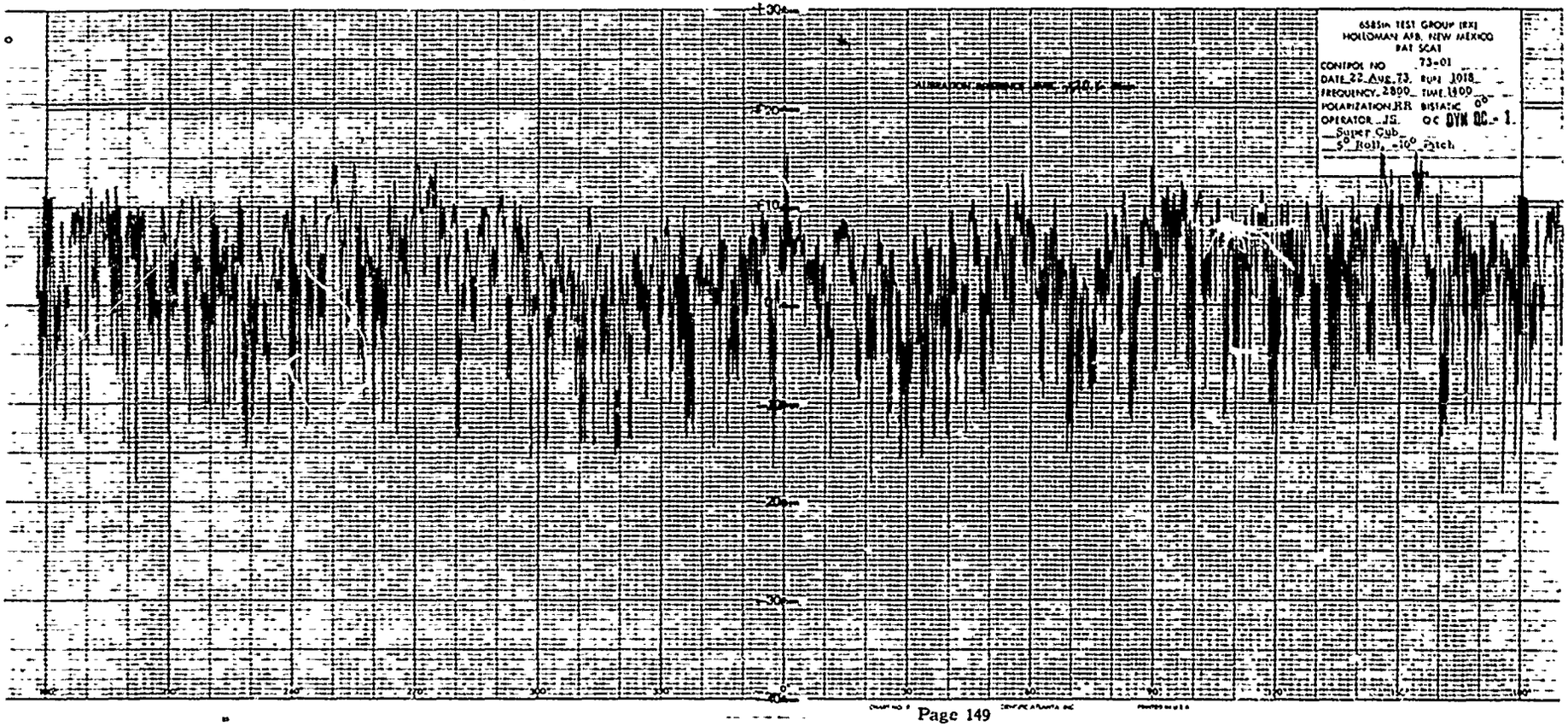

6585th TEST GROUP (RX)
HOLLOMAN AFB, NEW MEXICO
RAT SCAT
CONTROL NO. 73-01
DATE 22 Aug 73 RUN 1026
FREQUENCY 2809 TIME 1625
POLARIZATION RR BISTATIC 0°
OPERATOR MM OC DYN BC -1
Super Cub
0° Roll, -10° Pitch

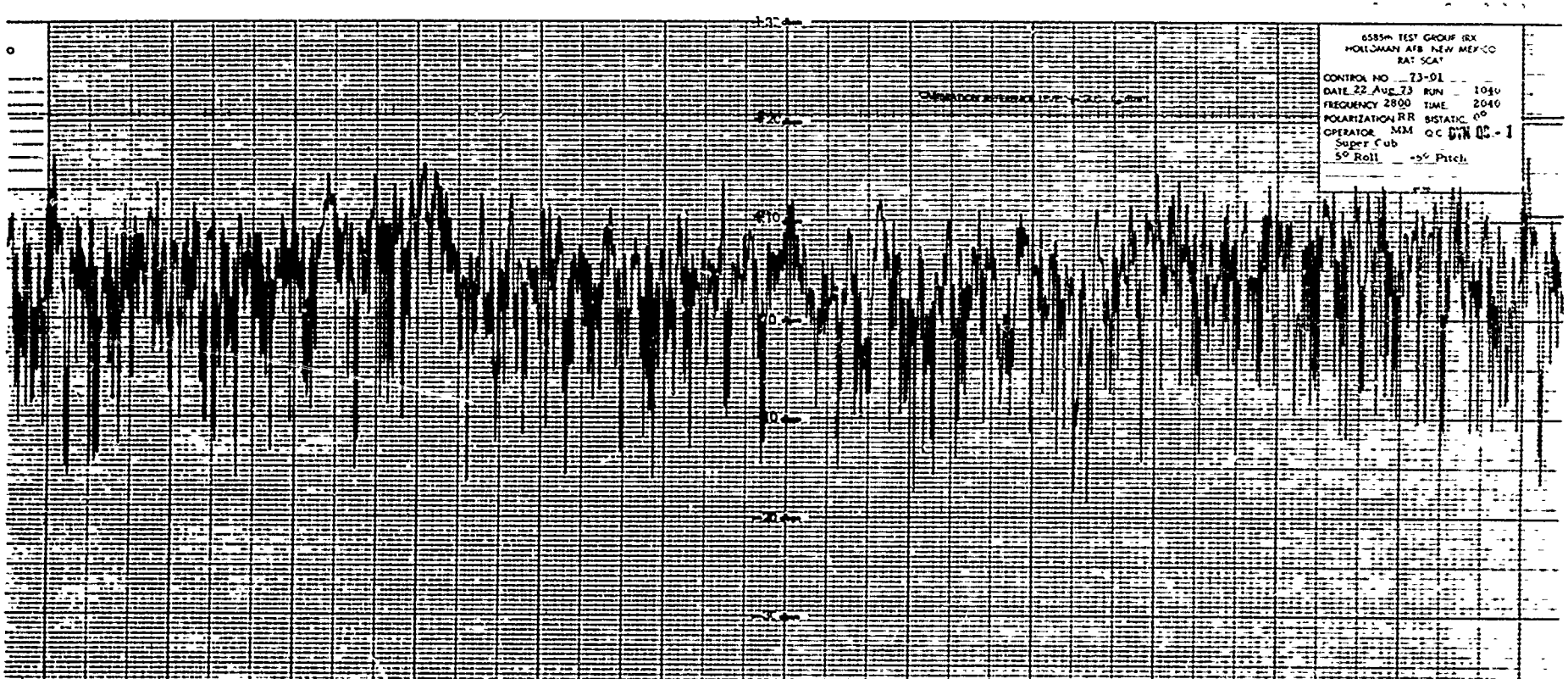

6585th TEST GROUP (RA)
HOLLOMAN AFB, NEW MEXICO
RAT SCAT
CO ITEM NO. 73-01
DATE 22 Aug 73 RUN 1033
FREQUENCY 2809 TIME 1615
POLARIZATION BB BISTATIC
OPERATOR MM QC DYN QC - 1
Super Cub
0° Roll 0° Pitch
+30 dbsm
+20 dbsm
+10 dbsm
0 dbsm
-10 dbsm
-20 dbsm
-30 dbsm
0°
30°
60°
90°
120°
150°
180°
210°
240°
270°
300°
330°

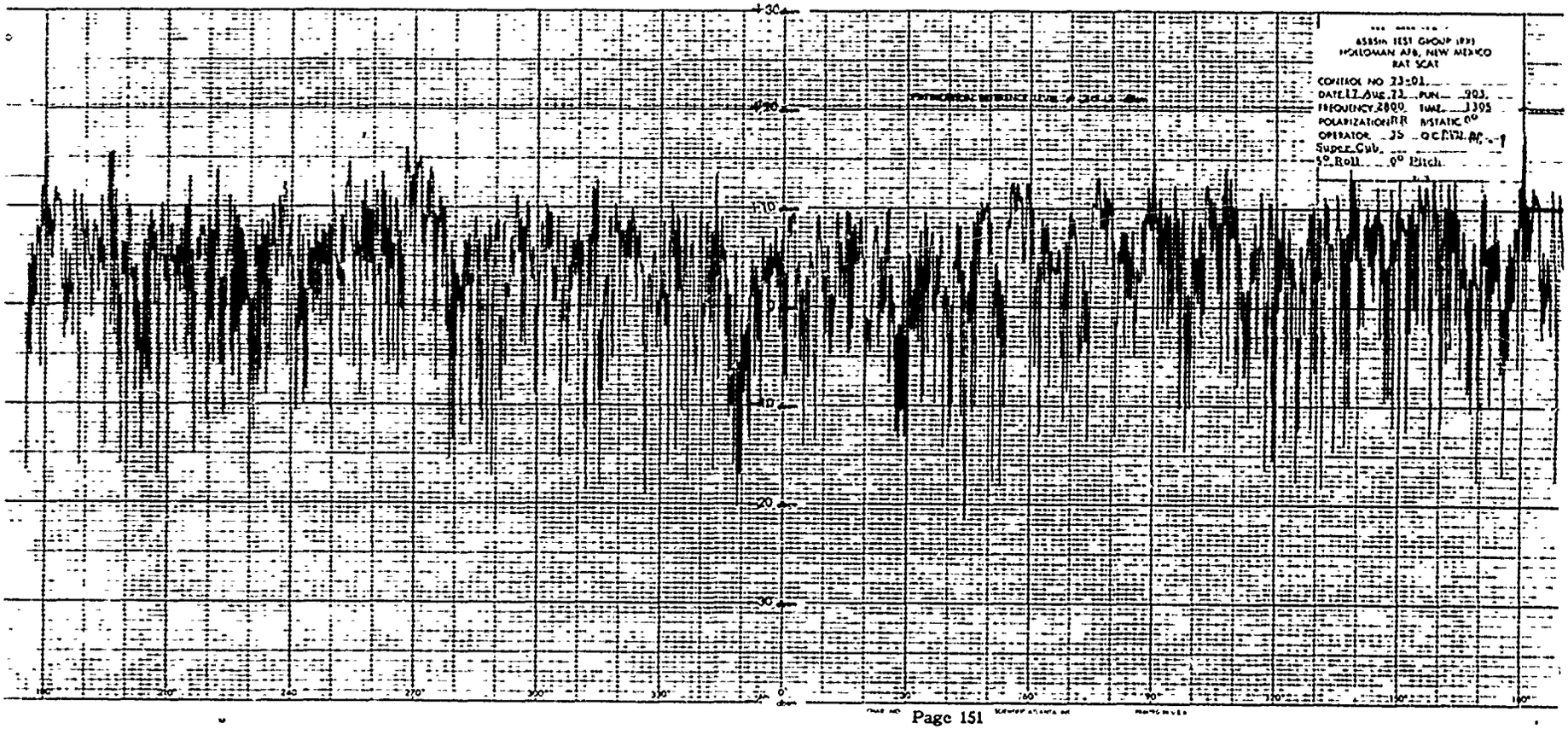

6565m TEST GROUP (RX)
HOLLOMAN AFB NEW MEXICO
PAT SCAT
CONTROL NO. 73-01
DATE 17 Aug 73 SLN. 894
FREQUENCY 2800 TIME 0340
POLARIZATION RR BISTATIC 00
OPERATOR JS OC 110-1
Super Cub
00 Roll 00 Pitch
+30
+20
+10
-10
-20
-30
-40

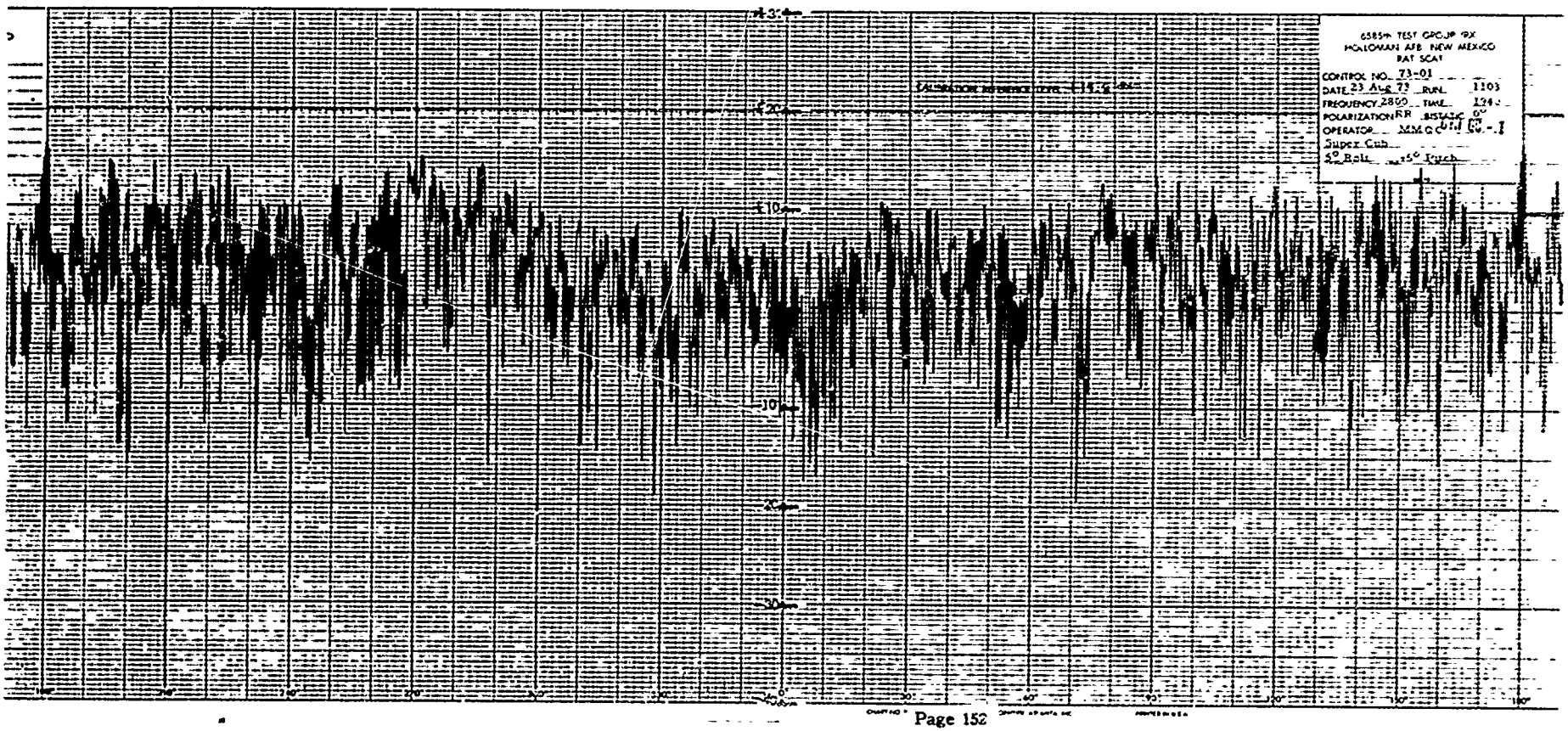

6585th TEST GROUP (RX)
HOLLOMAN AFB, NEW MEXICO
RAT SCAT
CONTROL NO. 73-01
DATE 23 Aug 73 RUN 1110
FREQUENCY 2800 TIME 2115
POLARIZATION RR BISTATIC 0°
OPERATOR MM
Super Cub
0° Roll 15° Pitch
+30
+20
+10
0
-10
-20
-30

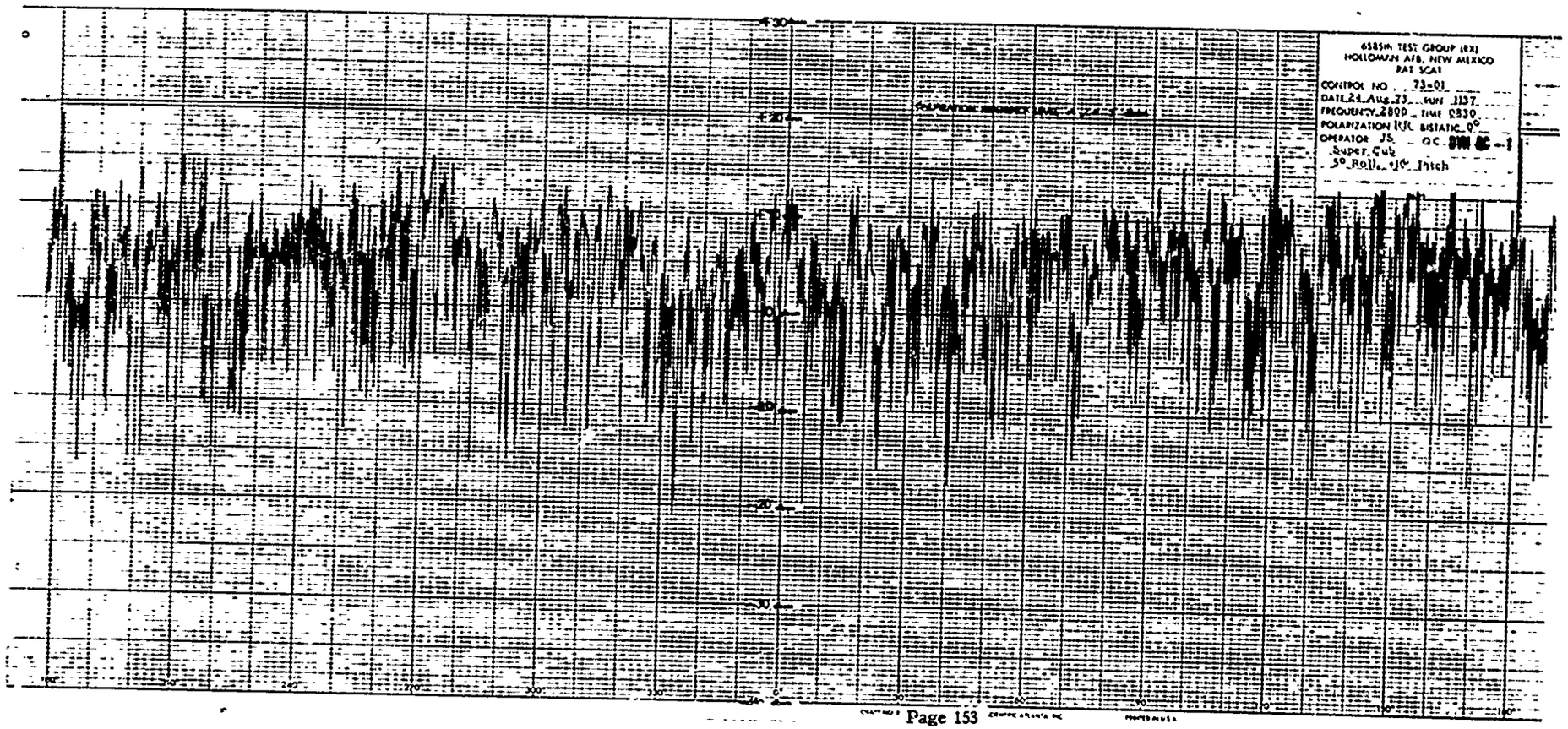

6585th TEST GROUP (RX),
HOLLOMAN AFB, NEW MEXICO
RAT SCAT
CONTROL NO 73-01
DATE 24 Aug 73 RUN 1130
FREQUENCY .2800 TIME 0720
POLARIZATION RR BISTATIC 0°
OPERATOR JS OC DYN RC - 1
Super Cub
0° Roll ±10° Pitch

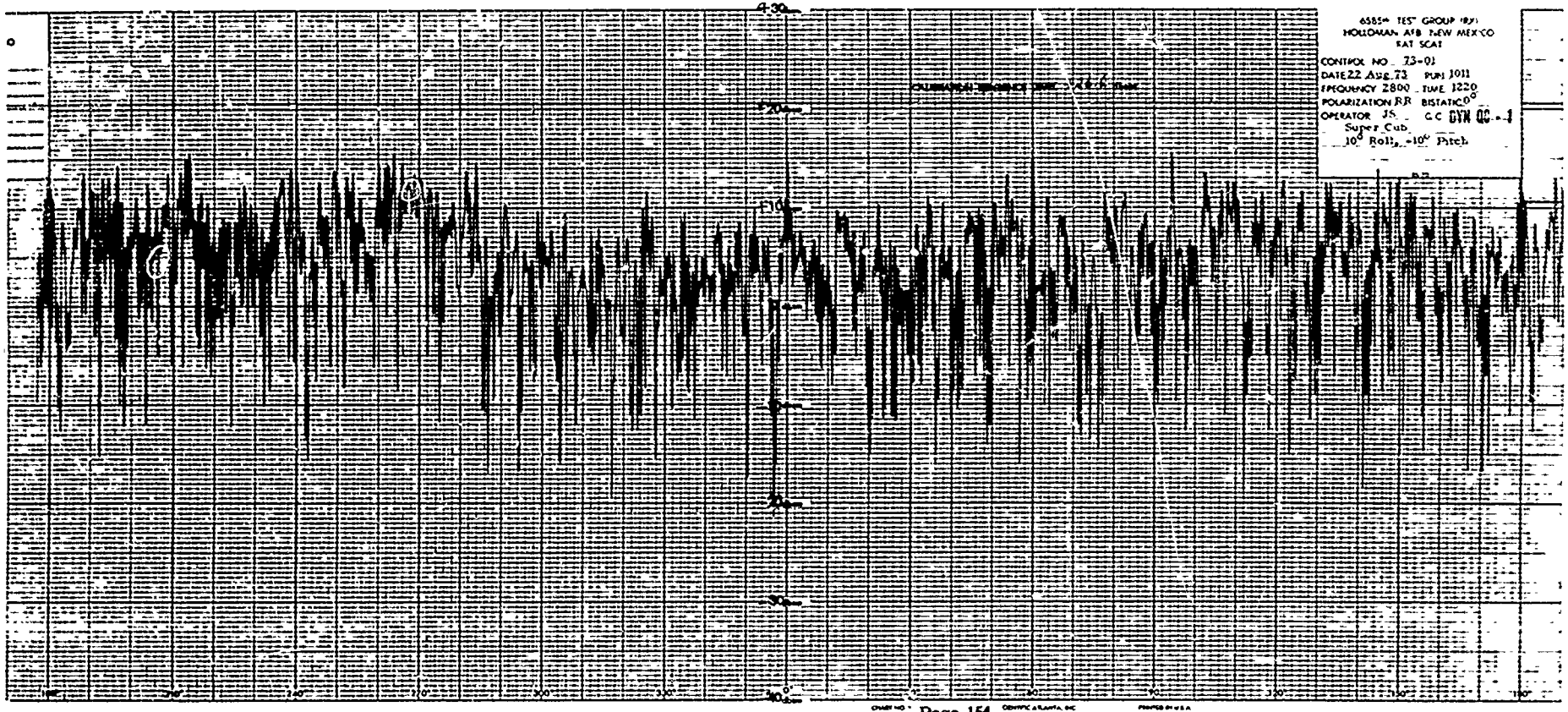

6585th TEST GROUP (RX)
HOLLOMAN AFB, NEW MEXICO
PAT SCAT
CONTROL NO 73-01
DATE 22 AUG 73 RUN 1018
FREQUENCY 2800 TIME 1600
POLARIZATION RR BISTATIC 0°
OPERATOR JS OC DYN OC - 1.
Super Cub
5° Roll, -10° Pitch
+30
+20
+10
0
-10
-20
-30
0°
90°
180°
270°
360°

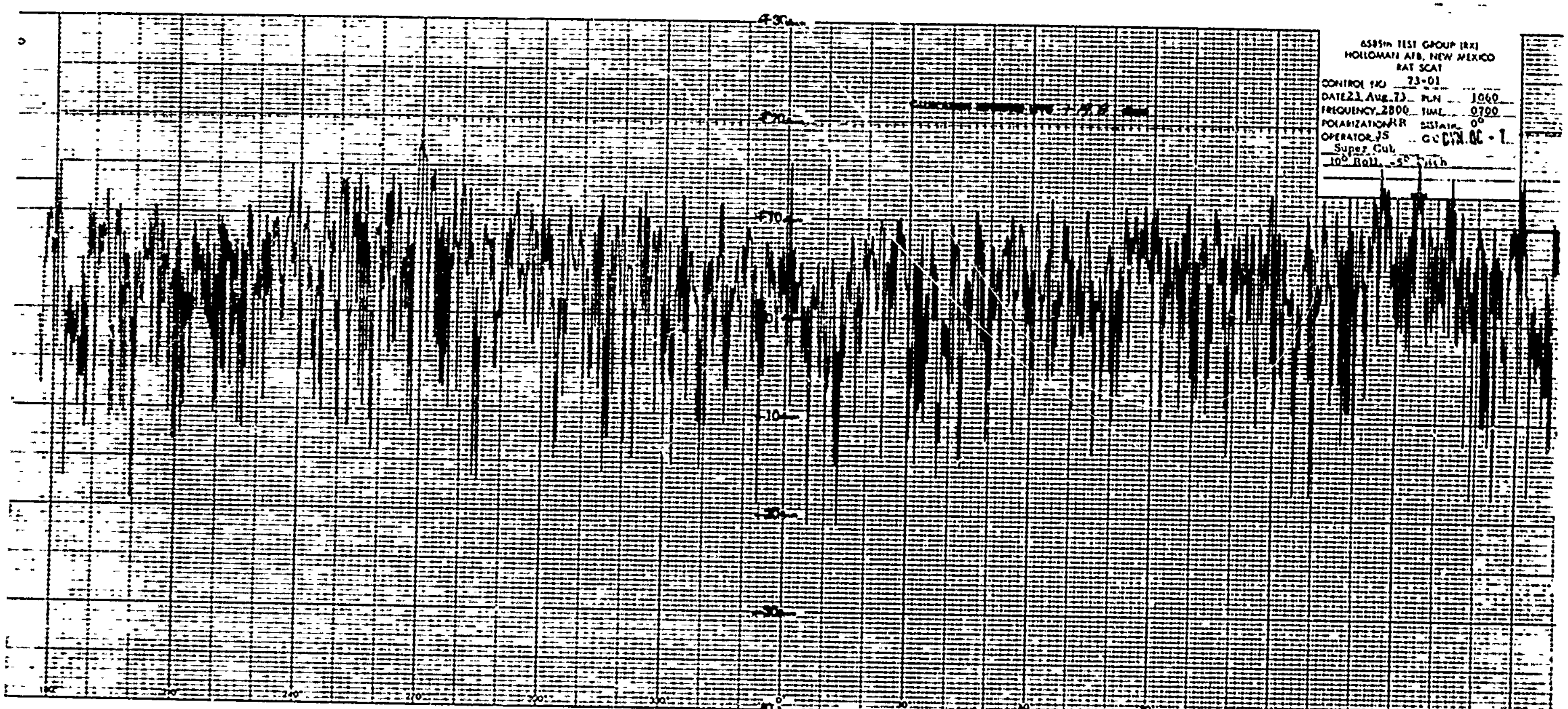

6585th TEST GROUP (RX
HOLLOMAN AFB NEW MEXICO
RAT SCAT
CONTROL NO 73-91
DATE 22 Aug 73 RUN 1040
FREQUENCY 2800 TIME 2040
POLARIZATION RR BISTATIC 0°
OPERATOR MM QC DTN 05 - 1
Super Cub
5° Roll +5° Pitch
-10
-20
-30
0°
30
90
150°

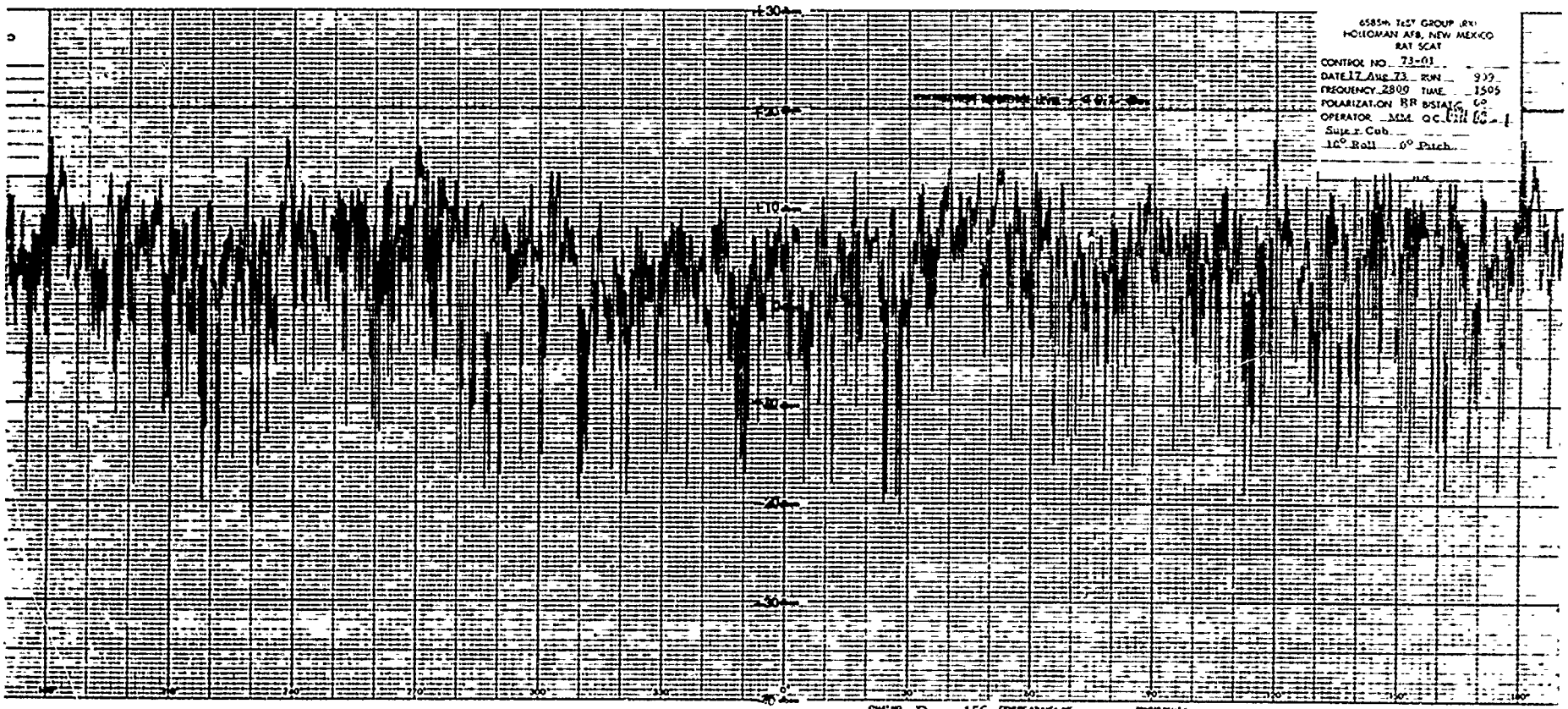

6585th TEST GROUP (PI)
HOLLOMAN AFB, NEW MEXICO
RAT SCAT
CONTROL NO 23-01
DATE 17 AUG 72 RUN 203
FREQUENCY 2800 TIME 1305
POLARIZATION HH BISTATIC 0°
OPERATOR JS
Super Cub
0° Roll 0° Pitch
+30
+20
+10
0
-10
-20
-30
180°
210°
240°
270°
300°
330°
0°
30°
60°
90°
120°
150°
180°

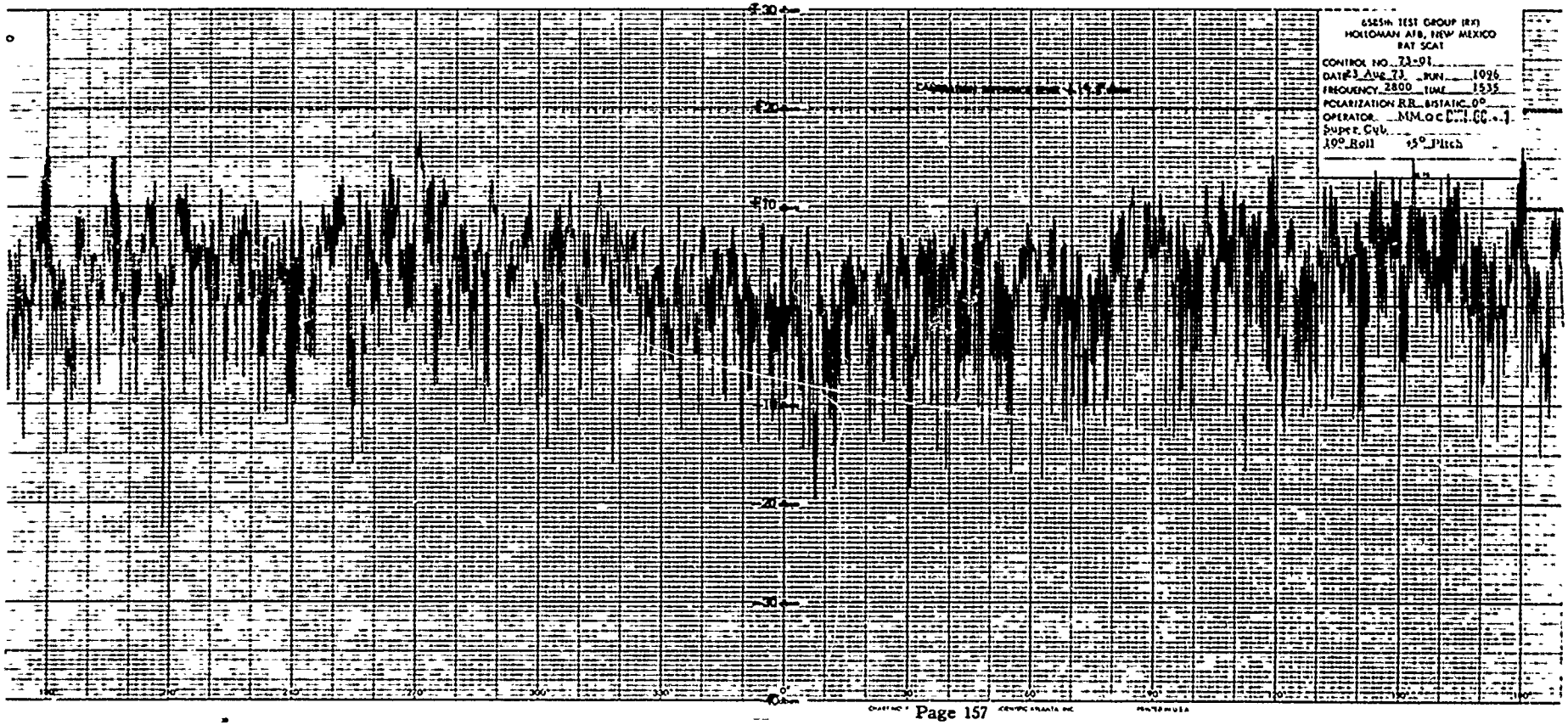

6585th TEST GROUP 'RX
HOLLOMAN AFB, NEW MEXICO
PAT SCAT
CONTROL NO. 73-01
DATE 23 Aug 73 RUN 1103
FREQUENCY 2800 TIME 1241
POLARIZATION RR DISTANCE 0°
OPERATOR MMG
Super Cub
50° Roll 50° Track
+30
+20
+10
-10
-30
-90°
-60°
-30°
0°
30°
60°
90°

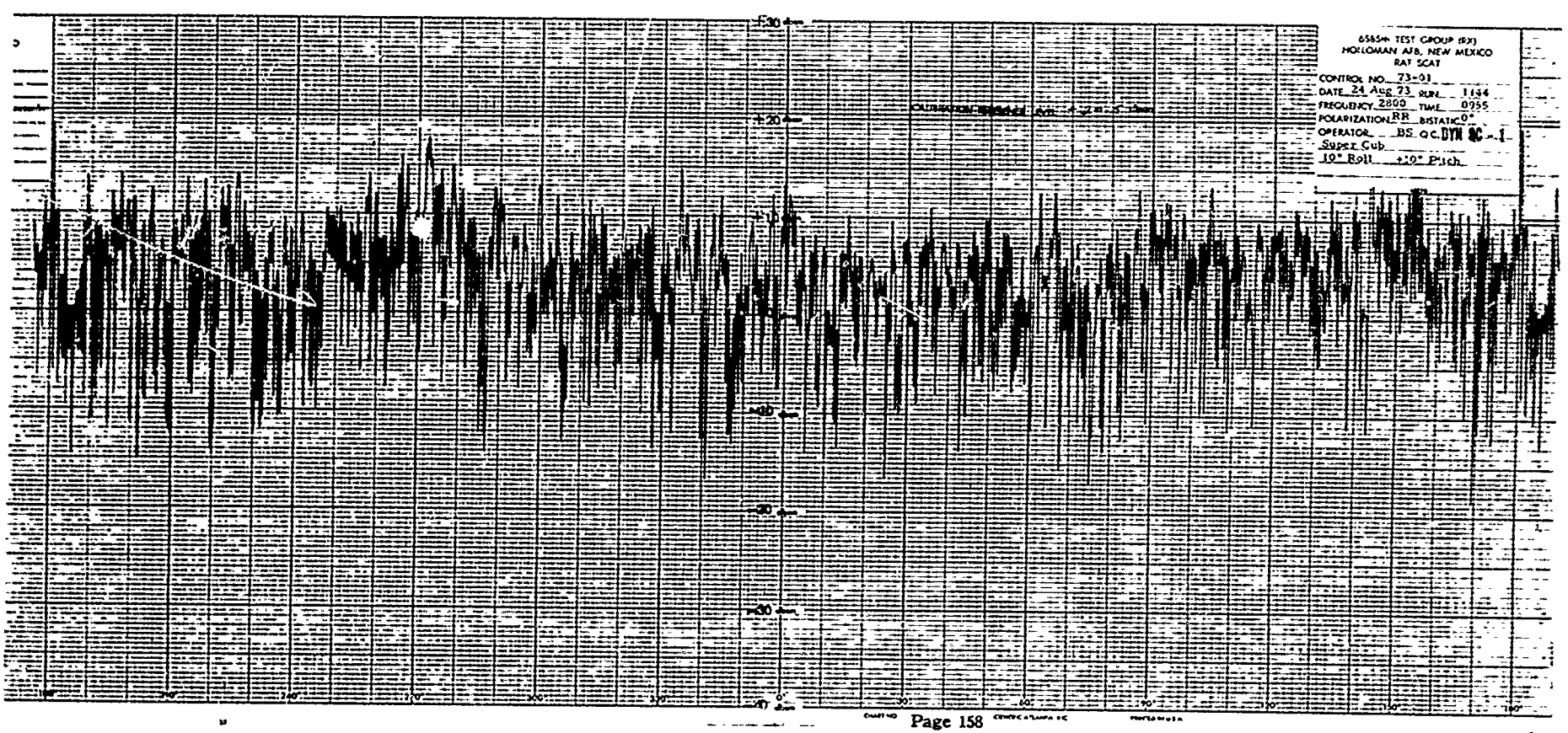

6585th TEST GROUP (RX)
HOLLOMAN AFB, NEW MEXICO
RAT SCAT
CONTROL NO. 73-01
DATE 24 Aug 73 RUN 1137
FREQUENCY 2800 TIME 0830
POLARIZATION R/L BISTATIC 0°
OPERATOR JS QC
Super Cub
5° Roll, +10° Pitch
-10
-20
-30
-40
-50
-60
-70
-80
-90
-100
-110
-120
-130
-140
-150
-160
-170
-180
-190
-200
-210
-220
-230
-240
-250
-260
-270
-280
-290
-300
-310
-320
-330
-340
-350
0
10
20
30
40
50
60
70
80
90

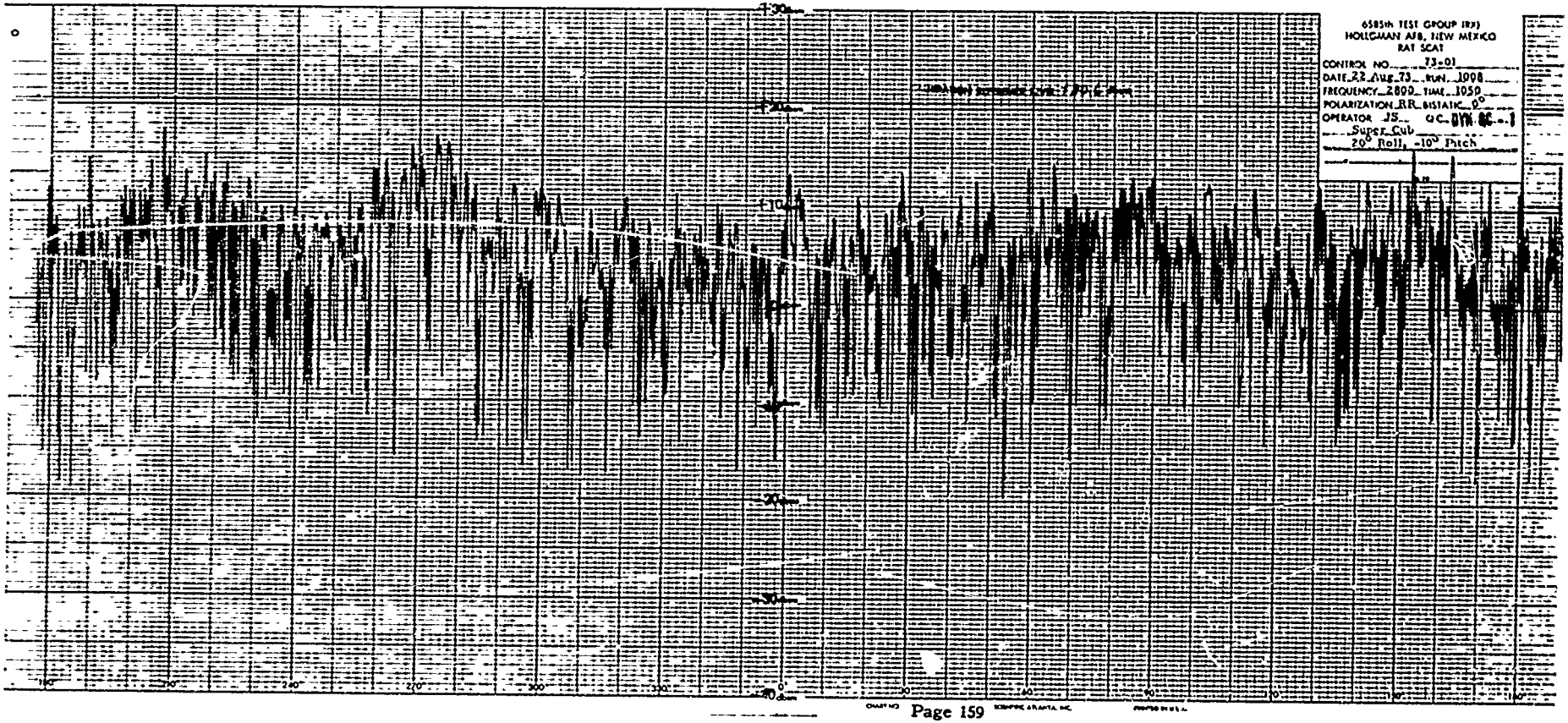

6585th TEST GROUP (RY)
HOLLOMAN AFB NEW MEXICO
RAT SCAT
CONTROL NO 73-01
DATE 22 Aug 73 RUN 1011
FREQUENCY 2800 TIME 1220
POLARIZATION RR BISTATIC 0°
OPERATOR JS CC GYN QC-1
Super Cub
10° Roll, -10° Pitch
-30
-40

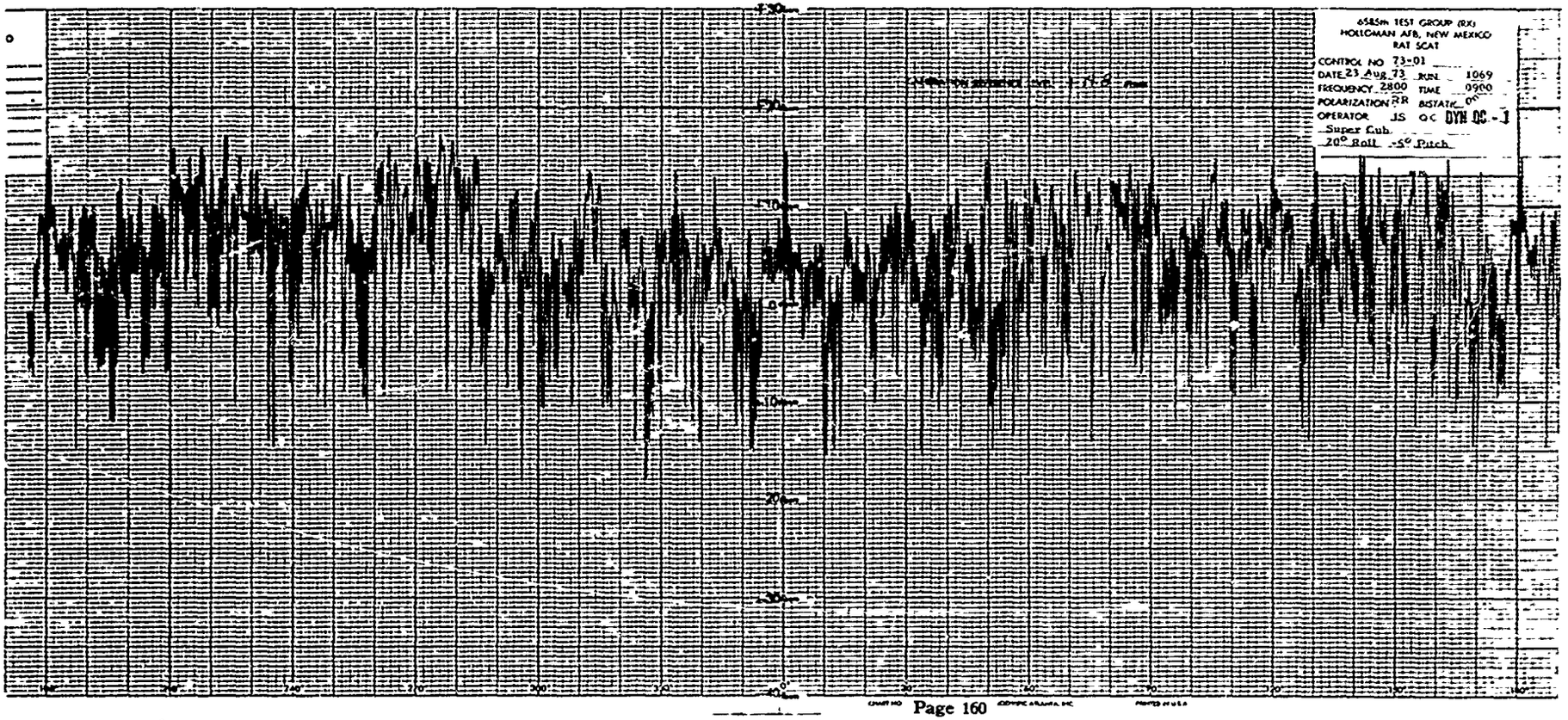

6585th TEST GROUP (RX)
HOLLOMAN AFB, NEW MEXICO
RAT SCAT
CONTROL NO 73-01
DATE 23 Aug 73 RUN 1060
FREQUENCY 2800 TIME 0700
POLARIZATION RR
OPERATOR JS
Super Cub
10° Roll -5° Pitch

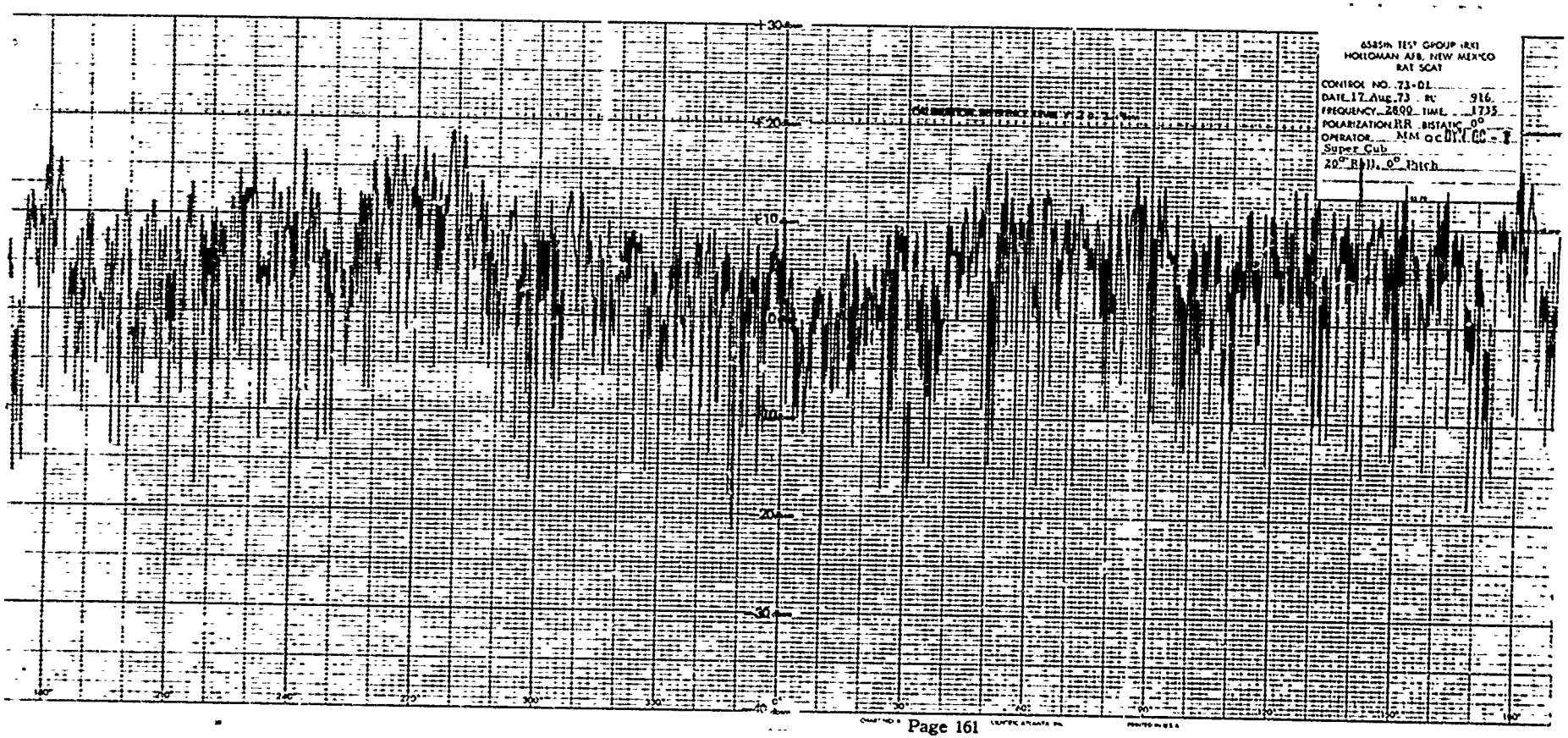

6585th TEST GROUP (RV)
HOLLOMAN AFB, NEW MEXICO
RAT SCAT
CONTROL NO. 73-01
DATE 17 Aug 73 RUN 999
FREQUENCY 2800 TIME 1505
POLARIZATION RR BISTATIC 00
OPERATOR MM QC
Super Cub
10° Roll 0° Pitch
+30
+20
+10
0
-10
-20
-30

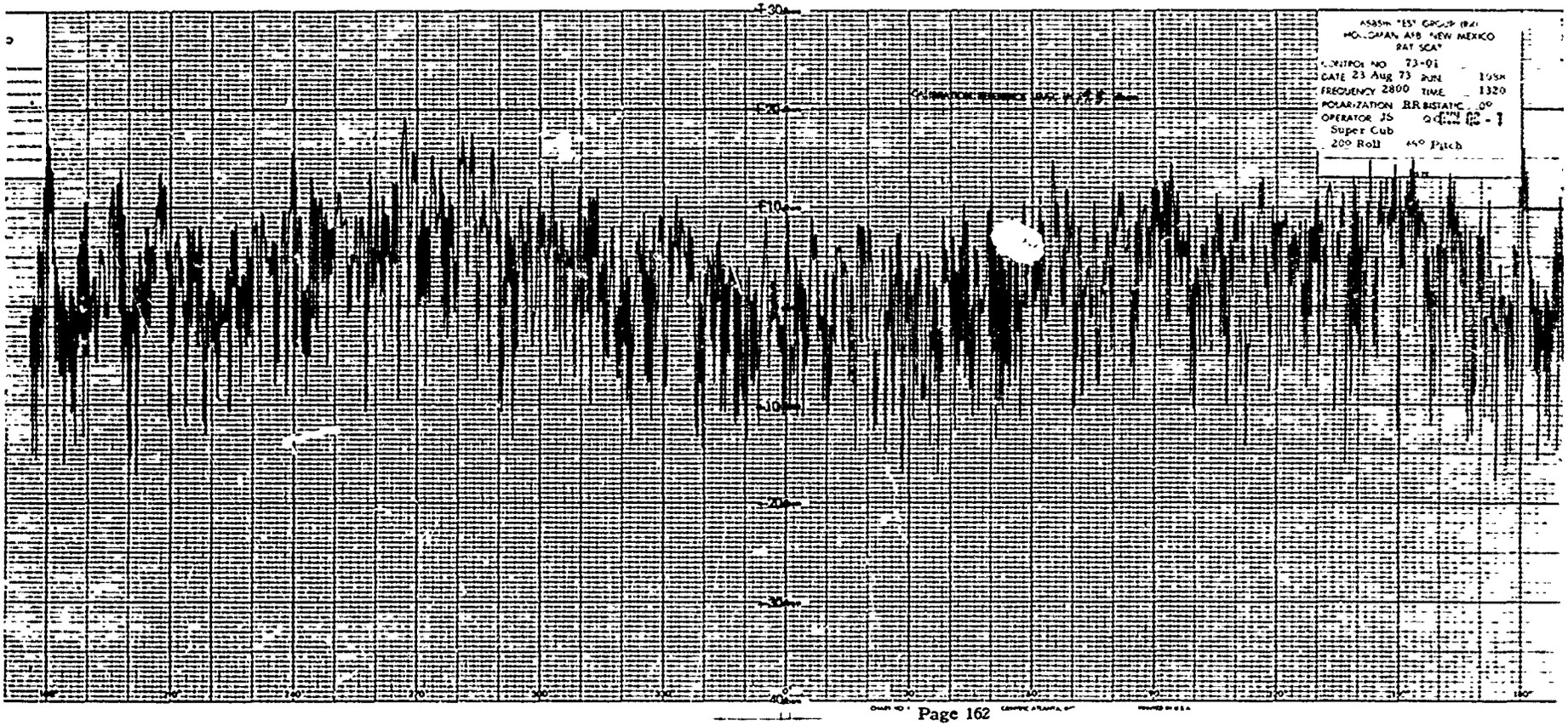

6565th TEST GROUP (RT)
HOLLOMAN AFB, NEW MEXICO
RAT SCAT
CONTROL NO. 73-91
DATE 3 Aug 73 RUN 1096
FREQUENCY 2800 TIME 1535
POLARIZATION RR BISTATIC 0°
OPERATOR MM.oc D...I.GC...
Super Cub
10° Roll +5° Pitch
-30
-20
-10
-0
-20
-30
0°
30
60
90
120
150
180
210
240
270
300
330

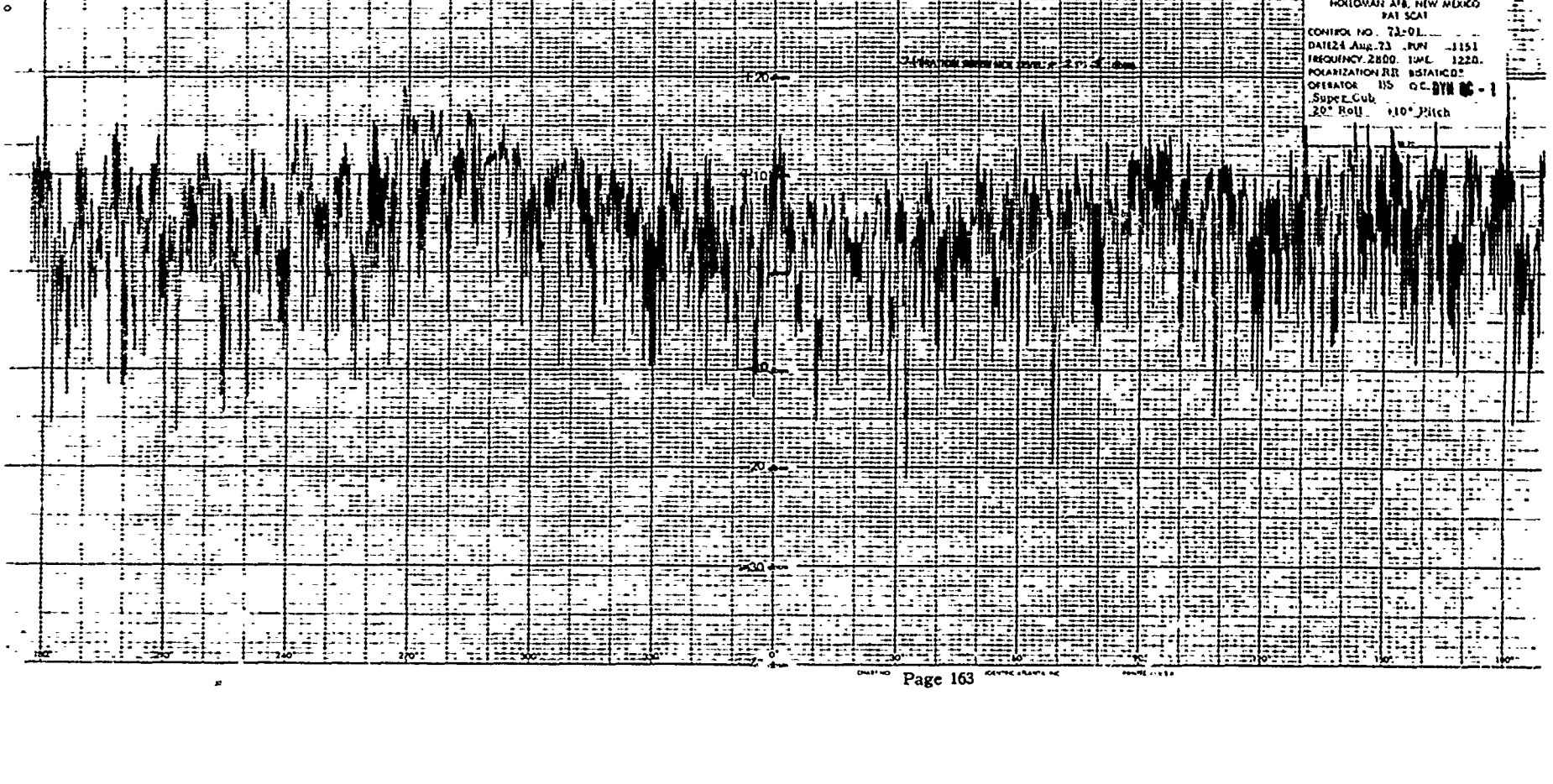

6565th TEST GROUP (RX)
HOLLOMAN AFB, NEW MEXICO
RAT SCAT
CONTROL NO. 73-91
DATE 24 Aug 73 RUN 1134
FREQUENCY 2800 TIME 0955
POLARIZATION RR BISTATIC 0°
OPERATOR BS QC DYN QC-1
Super Cub
10° Roll +20° Pitch
+30 dbsm
+20
+10
-10 dbsm
-20
-30
-40
-50
-60
-70
0°
30°
60°
90°
120°
150°
180°

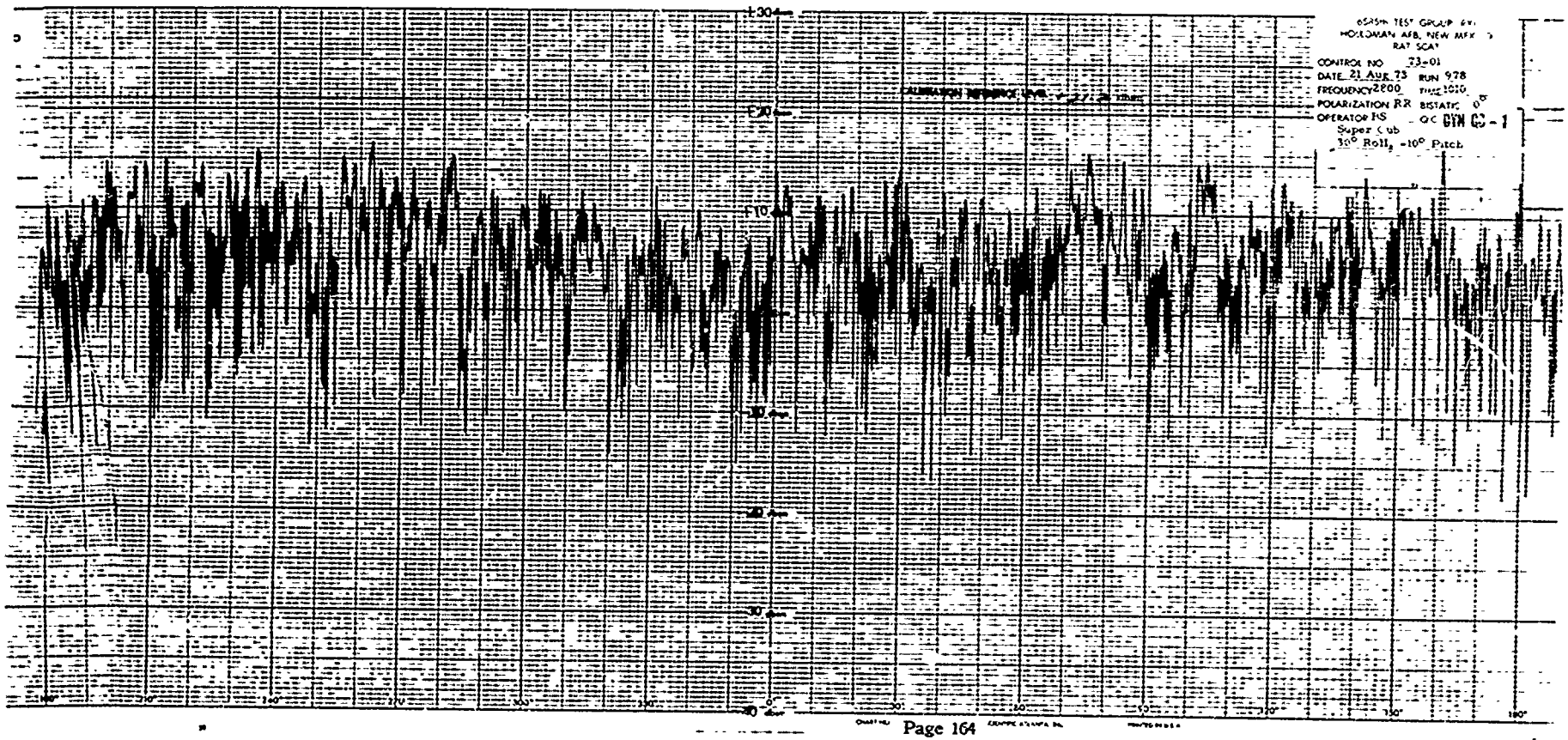

6585th TEST GROUP (RH)
HOLLOMAN AFB, NEW MEXICO
RAT SCAT
CONTROL NO. 73-01
DATE 22 Aug 73 RUN 1008
FREQUENCY 2800 TIME 1050
POLARIZATION RR BISTATIC 0°
OPERATOR JS QC
Super Cub
20° Roll, -10° Pitch
+30
+20
+10
0
-10
-20
-30
-40 dBsm

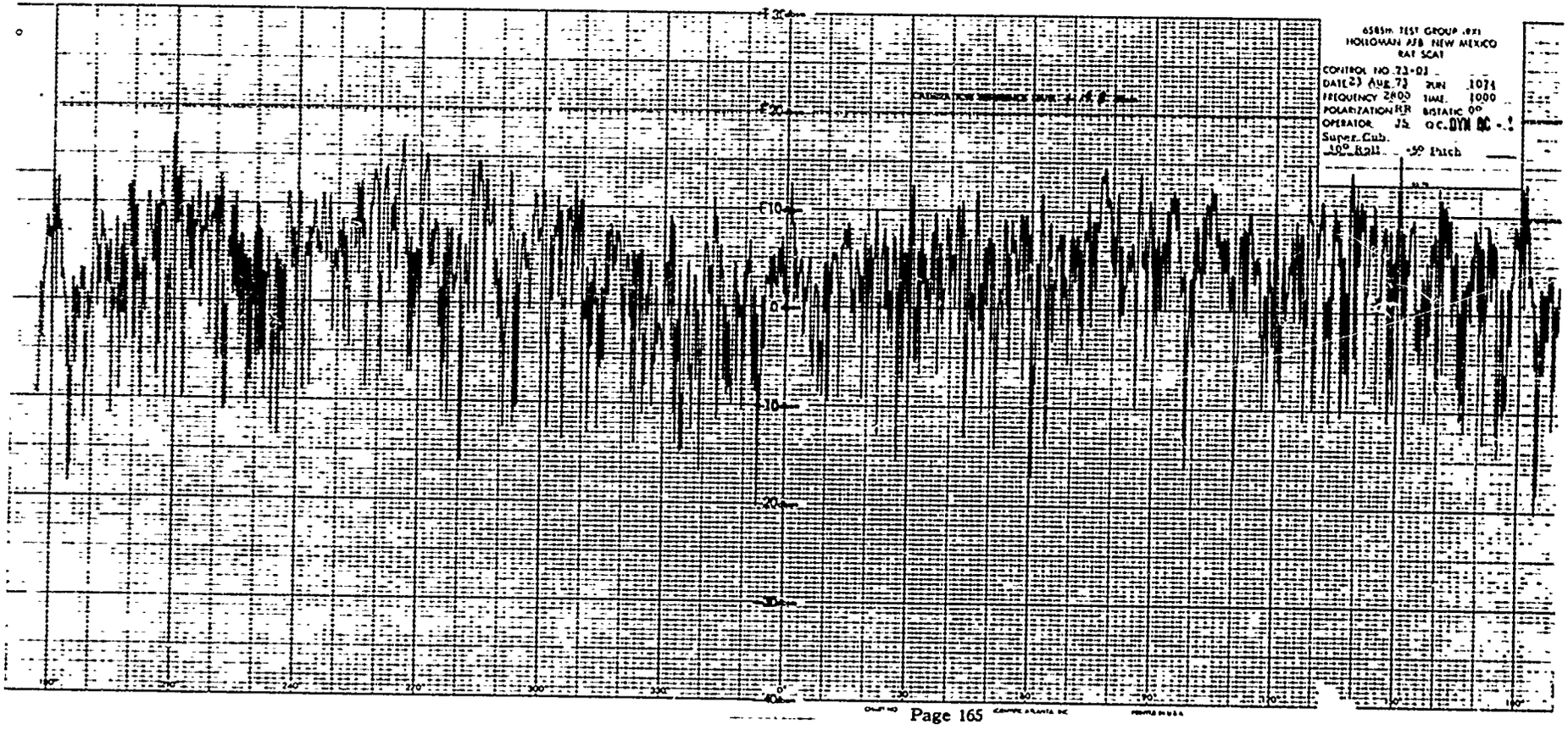

6585th TEST GROUP (RX)
HOLLOMAN AFB, NEW MEXICO
RAT SCAT
CONTROL NO 73-01
DATE 23 Aug 73 RUN 1069
FREQUENCY 2800 TIME 0900
POLARIZATION RR BISTATIC 0°
OPERATOR JS QC DYN QC - 1
Super Cub
20° Roll -5° Pitch
+30
+20
+10
0
-10
-20
-30
-40
360°
300°
240°
180°
120°
60°
0°

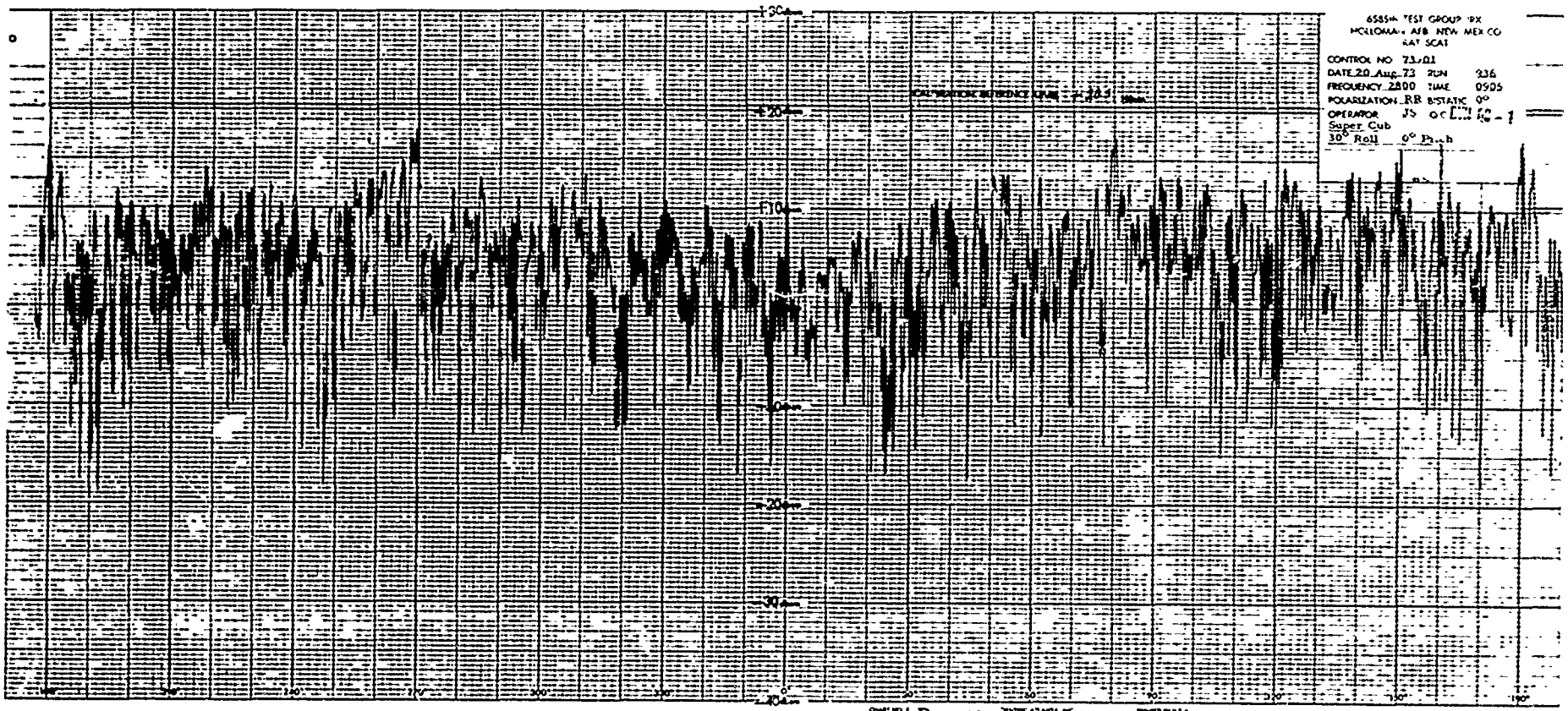

6585th TEST GROUP (RT)
HOLLOMAN AFB, NEW MEXICO
RAT SCAT
CONTROL NO. 73-01
DATE 17 Aug 73 RL 916.
FREQUENCY 2800 TIME 1735
POLARIZATION RR BISTATIC 0°
OPERATOR MSM QC
Super Cub
20° Roll, 0° Pitch
+30
+20
+10
0
-10
-20
-30
-40
180°
270°
360°
0°
90°
180°

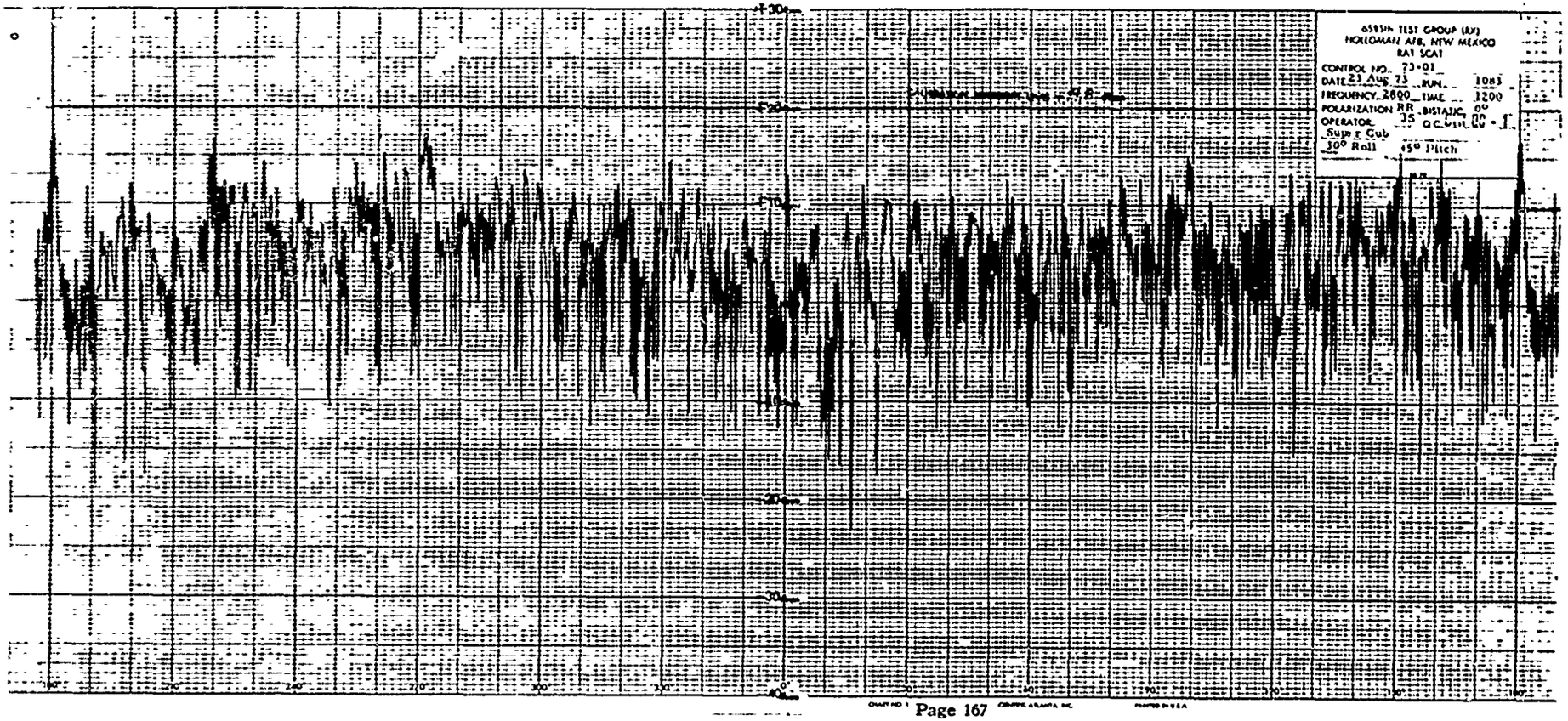

+30
+20
+10
-10
-20
-30
-40
ASESM "EST" GROUP (BX)
HOLLOMAN AFB NEW MEXICO
RAT SCAT
CONTROL NO. 73-01
DATE 23 Aug 73 RUN 1554
FREQUENCY 2800 TIME 1320
POLARIZATION RR BISTATIC 0°
OPERATOR JS
Super Cub
200 Roll 44° Pitch

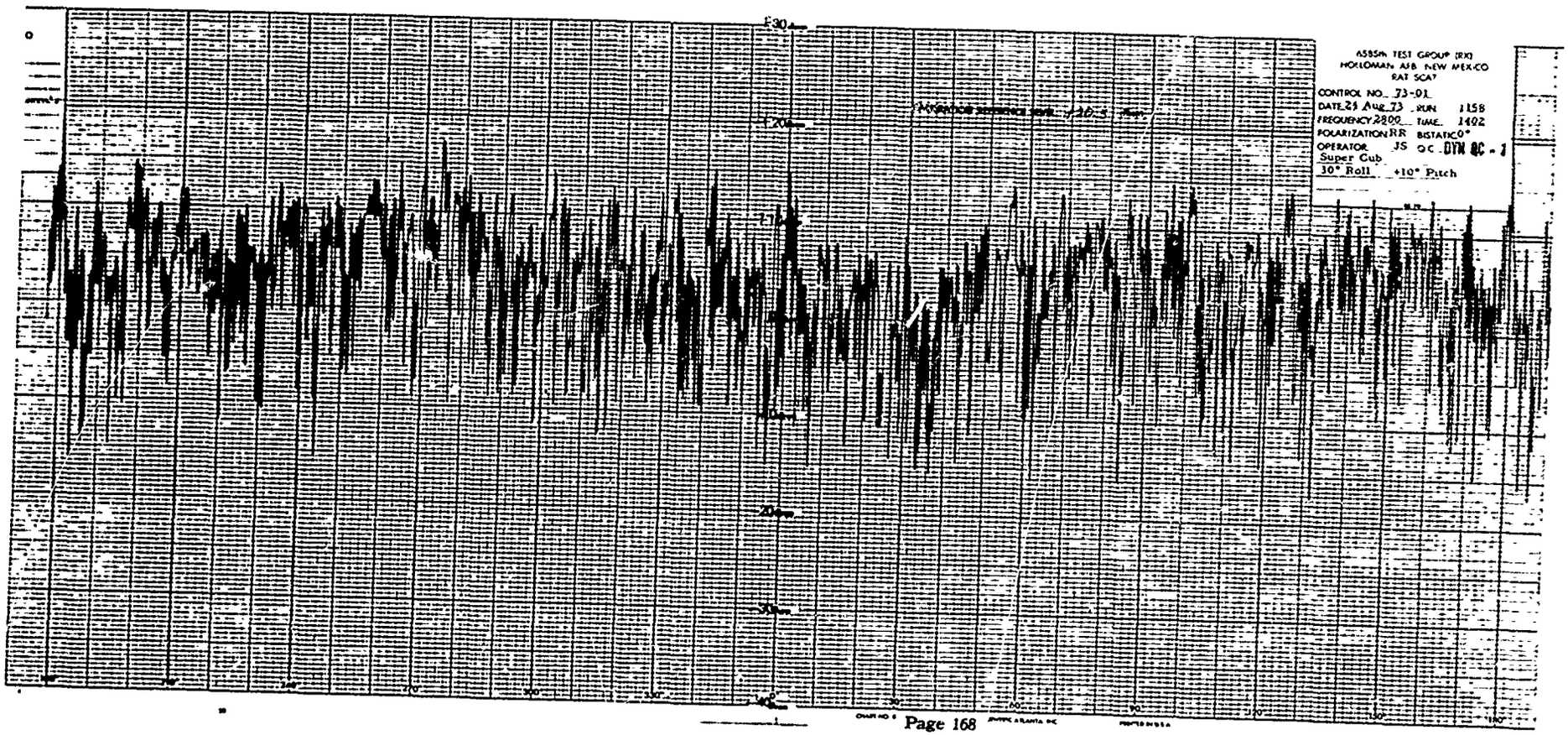

6585th TEST GROUP (RA)
HOLLOMAN AFB, NEW MEXICO
PAT SCAT
CONTROL NO. 73-01
DATE 24 Aug. 73 RUN 1151
FREQUENCY 2800. TIME 1220.
POLARIZATION RR ISTATIC 0°
OPERATOR HS CC DYN RC - 1
Super Cub
20° Roll +10° Pitch
+30
+20
+10
0
-10
-20
-30
180°
240°
270°
300°
330°
0°
30°
60°
90°
120°
150°
180°

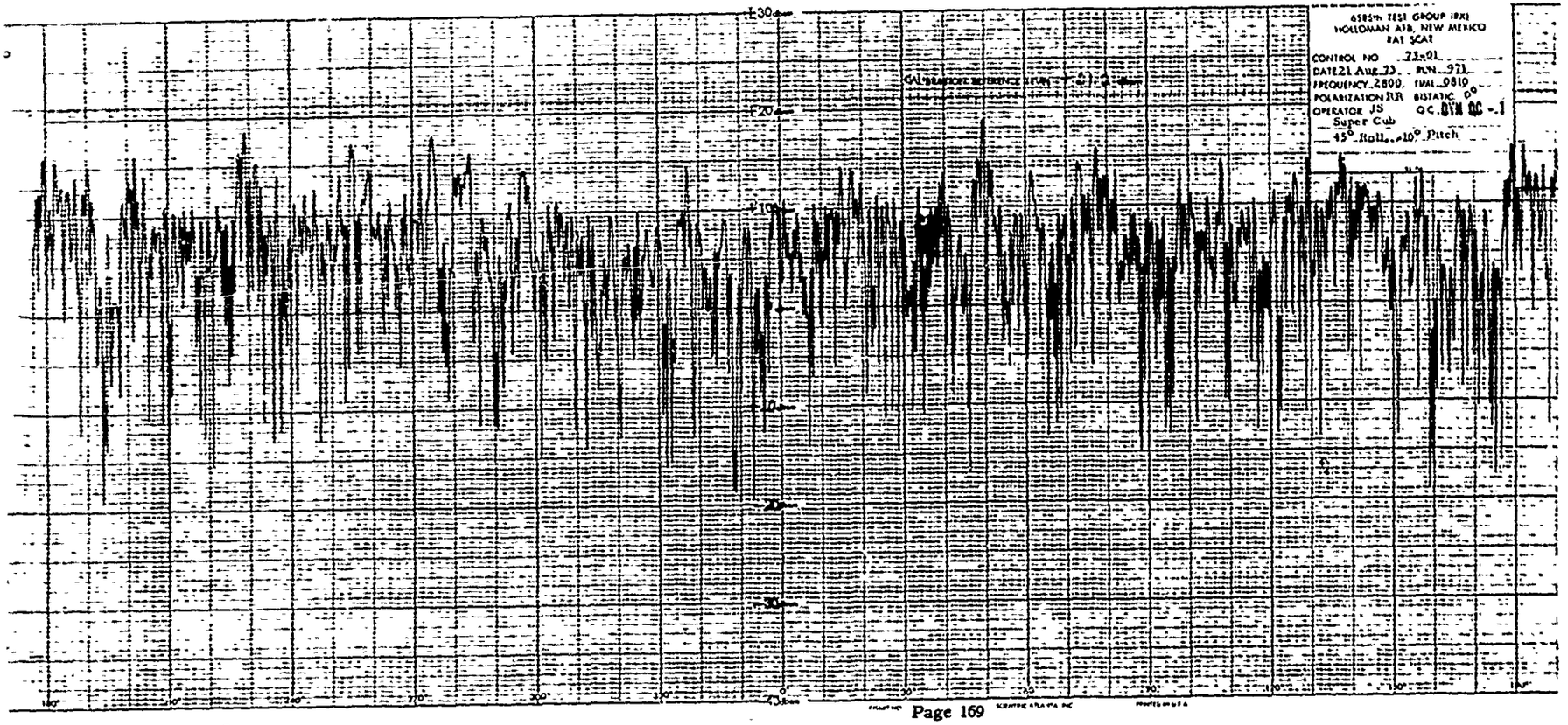

+30
+20
+10
0
-10
-20
-30
-40
0545th TEST GROUP (AF)
HOLLOMAN AFB, NEW MEX
RAT SCAT
CONTROL NO 73-01
DATE 21 AUG 73 RUN 978
FREQUENCY 2800 TIME 1010
POLARIZATION RR BISTATIC 0°
OPERATOR RS QC BIN GC-1
Super Cub
30° Roll, -10° Pitch

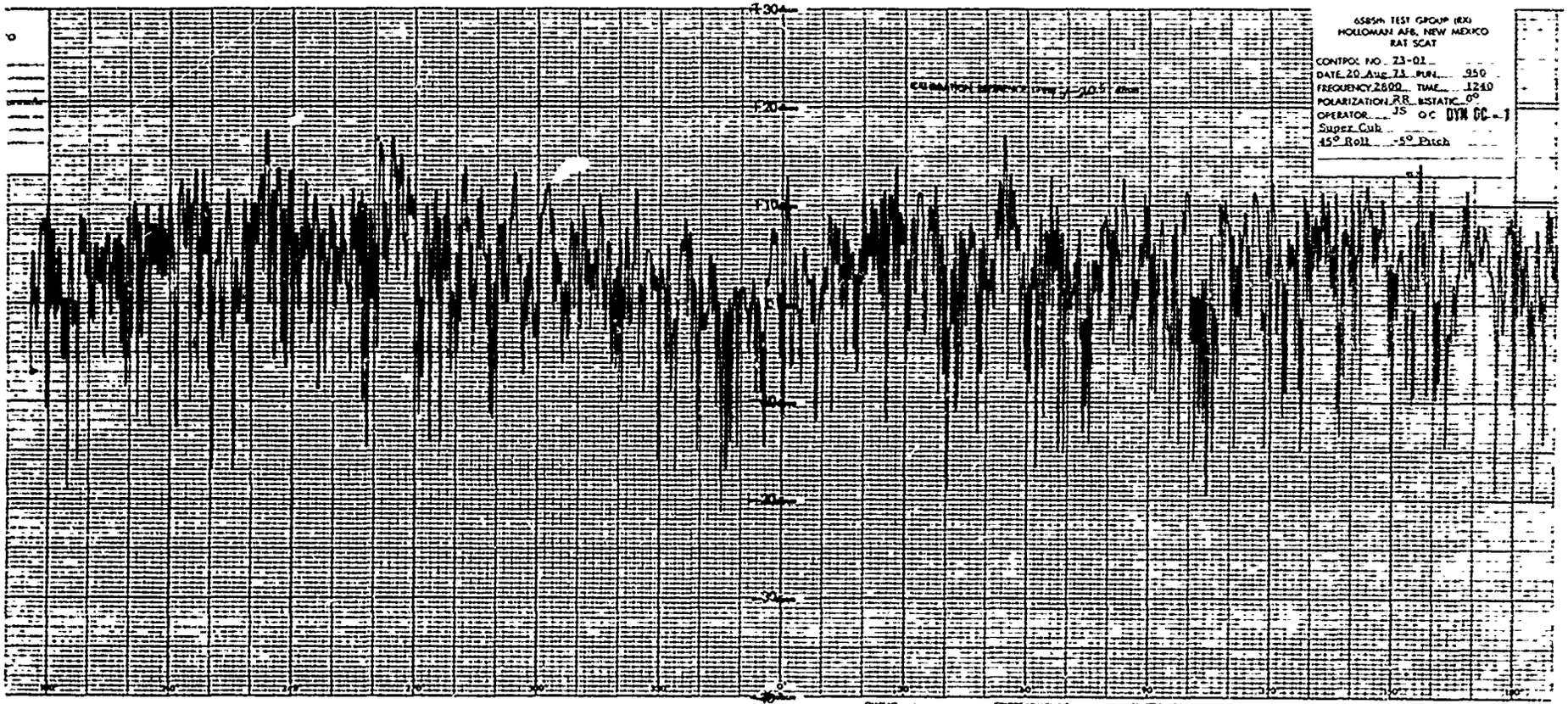

6585th TEST GROUP (RX)
HOLLOMAN AFB NEW MEXICO
RAT SCAT
CONTROL NO. 73-03
DATE(Z) AUG 73 RUN 1074
FREQUENCY 2800 TIME 1000
POLARIZATION RR BISTATIC 0°
OPERATOR JS
Super Cub
10° Roll +5° Pitch
+30
+20
+10
0
-10
-20
-30
-40
180°
240°
270°
300°
330°
0°
30°
90°
180°

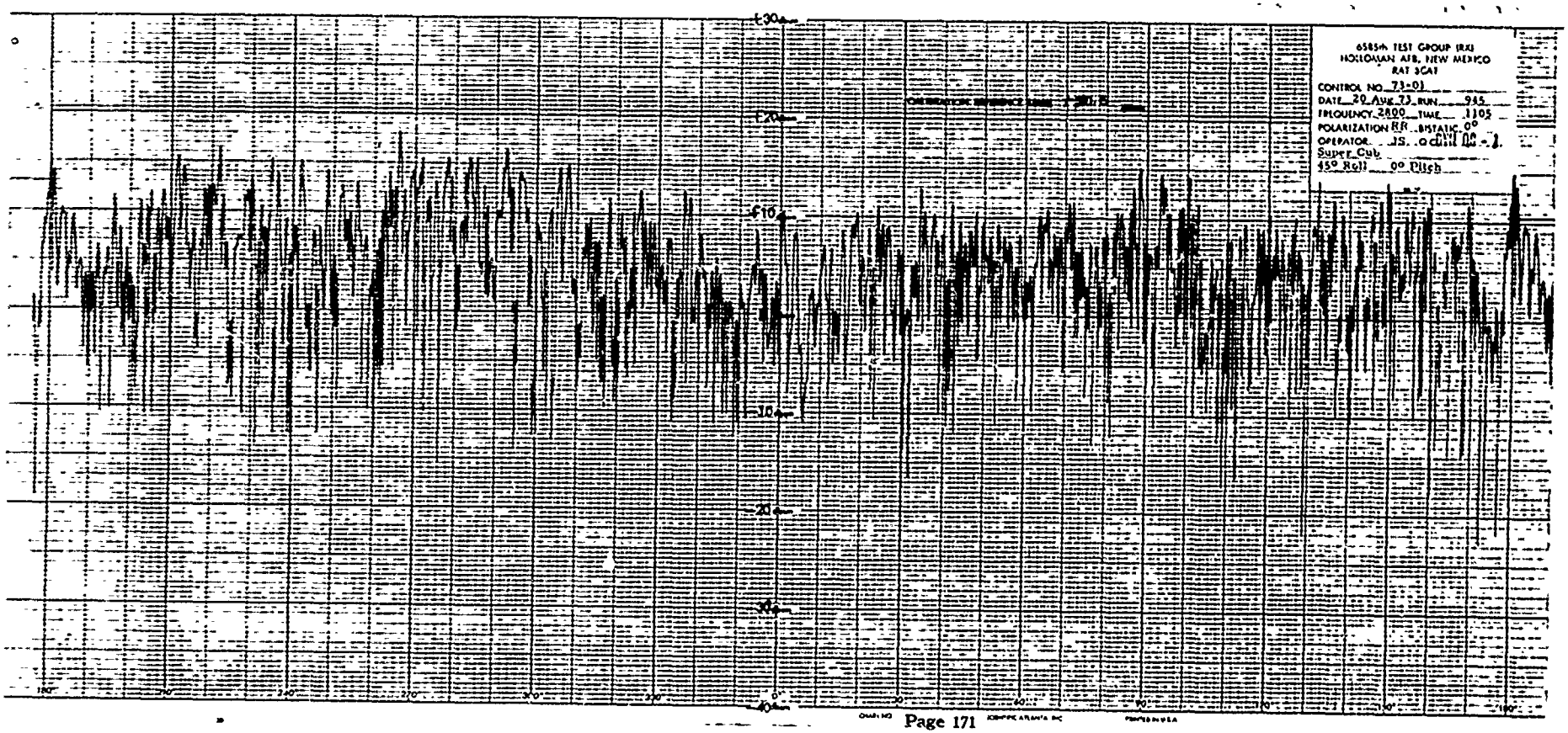

6585th TEST GROUP (PX
HOLLOMAN AFB NEW MEX CO
RAT SCAT
CONTROL NO 73-01
DATE 20 Aug 73 RUN 236
FREQUENCY 2800 TIME 0905
POLARIZATION RR BISTATIC 0°
OPERATOR JS
Super Cub
30° Roll 0° Pitch
+30dBsm
+20dBsm
+10dBsm
0dBsm
-10dBsm
-20dBsm
-30dBsm
-40dBsm
0°
30
60
90
120
150
180°

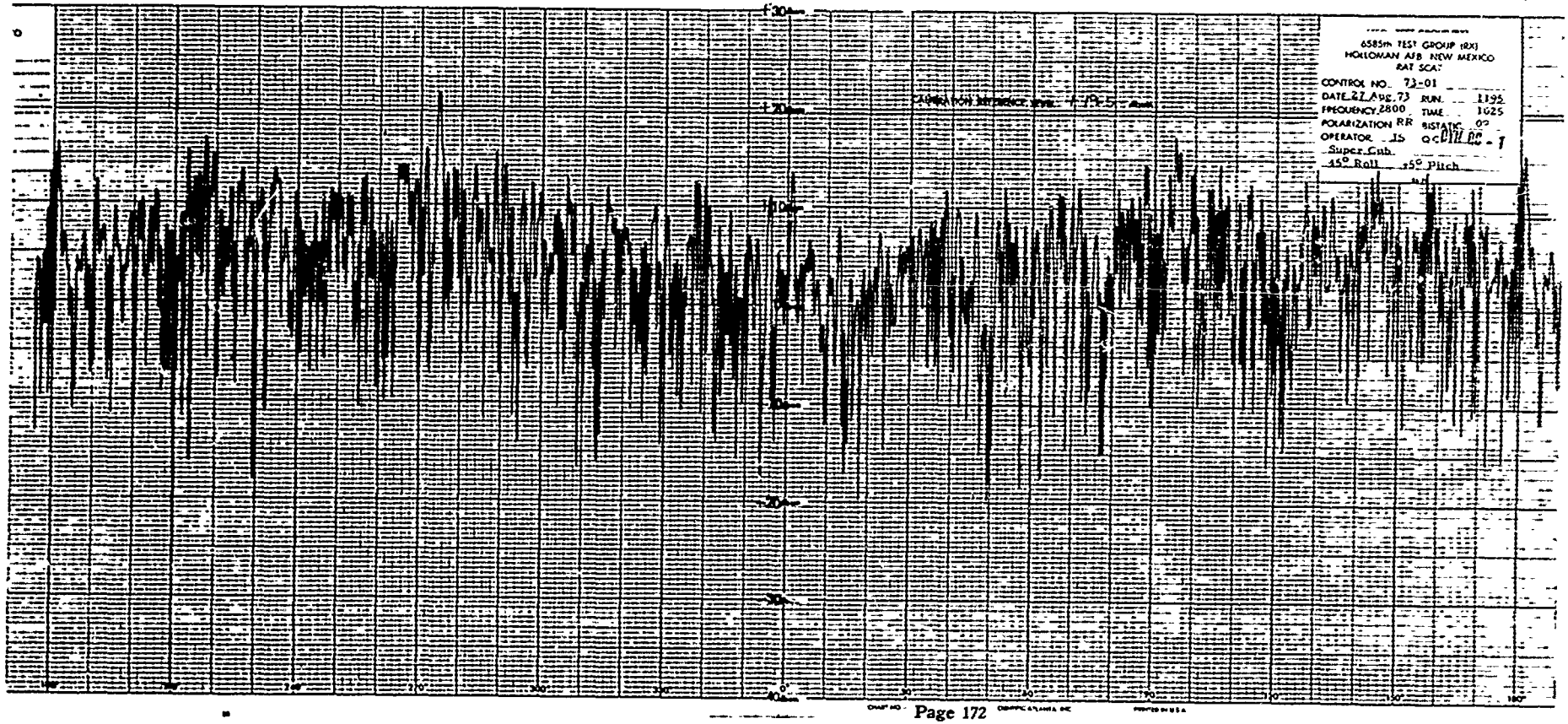

6585th TEST GROUP (RX)
HOLLOMAN AFB, NTW MEXICO
RAT SCAT
CONTROL NO. 73-01
DATE 23 Aug 73 RUN 1083
FREQUENCY 2800 TIME 1200
POLARIZATION RR BISTATIC 00
OPERATOR JS
Supr E Gub
30° Roll
45° Pitch
+30
+20
+10
-10
-20
-30
-40
90°
120°
150°
180°
210°
240°
270°
300°
330°
0°
30°
60°
90°
120°
150°
180°

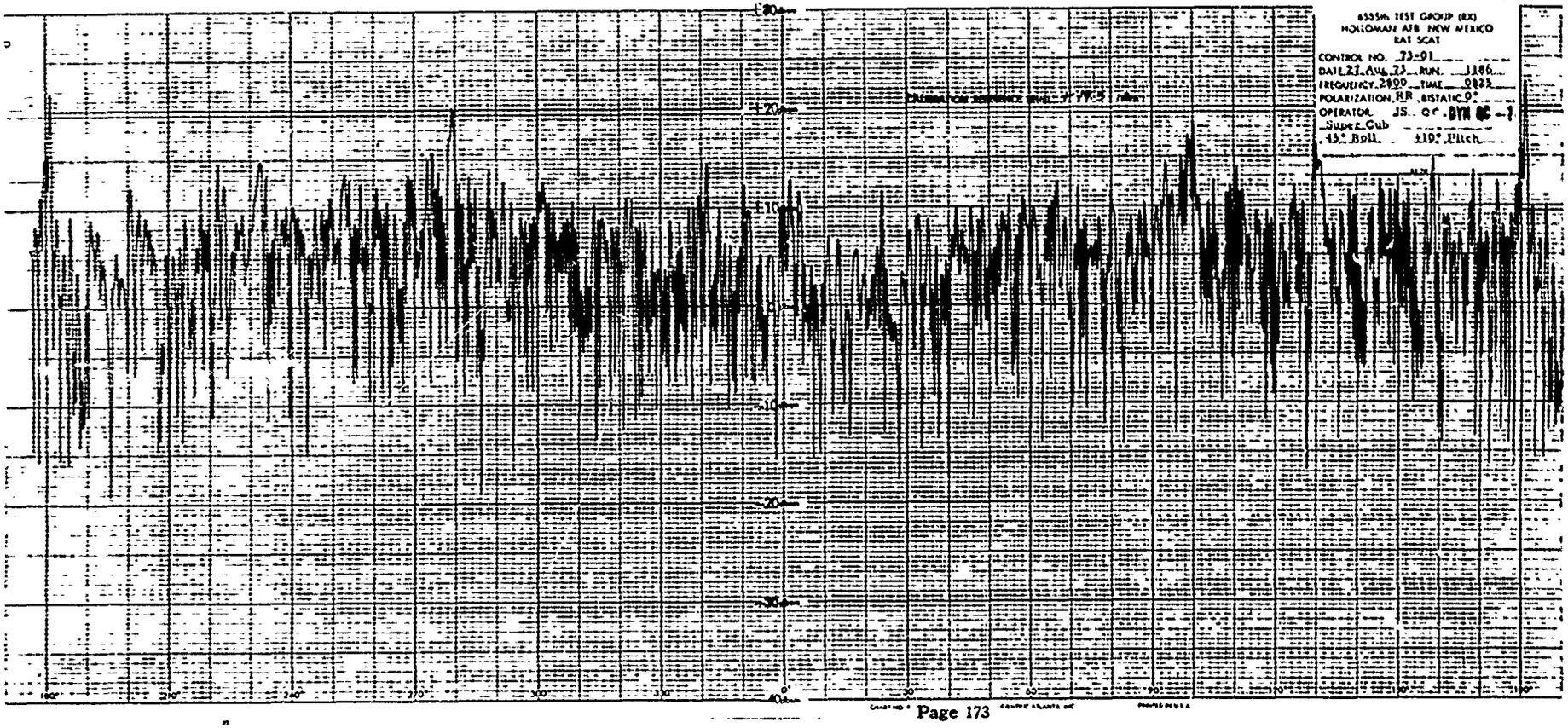

-30dBsm
-20dBsm
-10dBsm
0dBsm
10dBsm
20dBsm
30dBsm
4585th TEST GROUP (RX)
HOLLOMAN AFB NEW MEXICO
RAT SCAT
CONTROL NO. 73-01
DATE 24 Aug 73 RUN 1158
FREQUENCY 2800 TIME 1402
POLARIZATION RR BISTATIC 0°
OPERATOR JS QC DYN QC - 1
Super Cub
30° Roll +10° Pitch

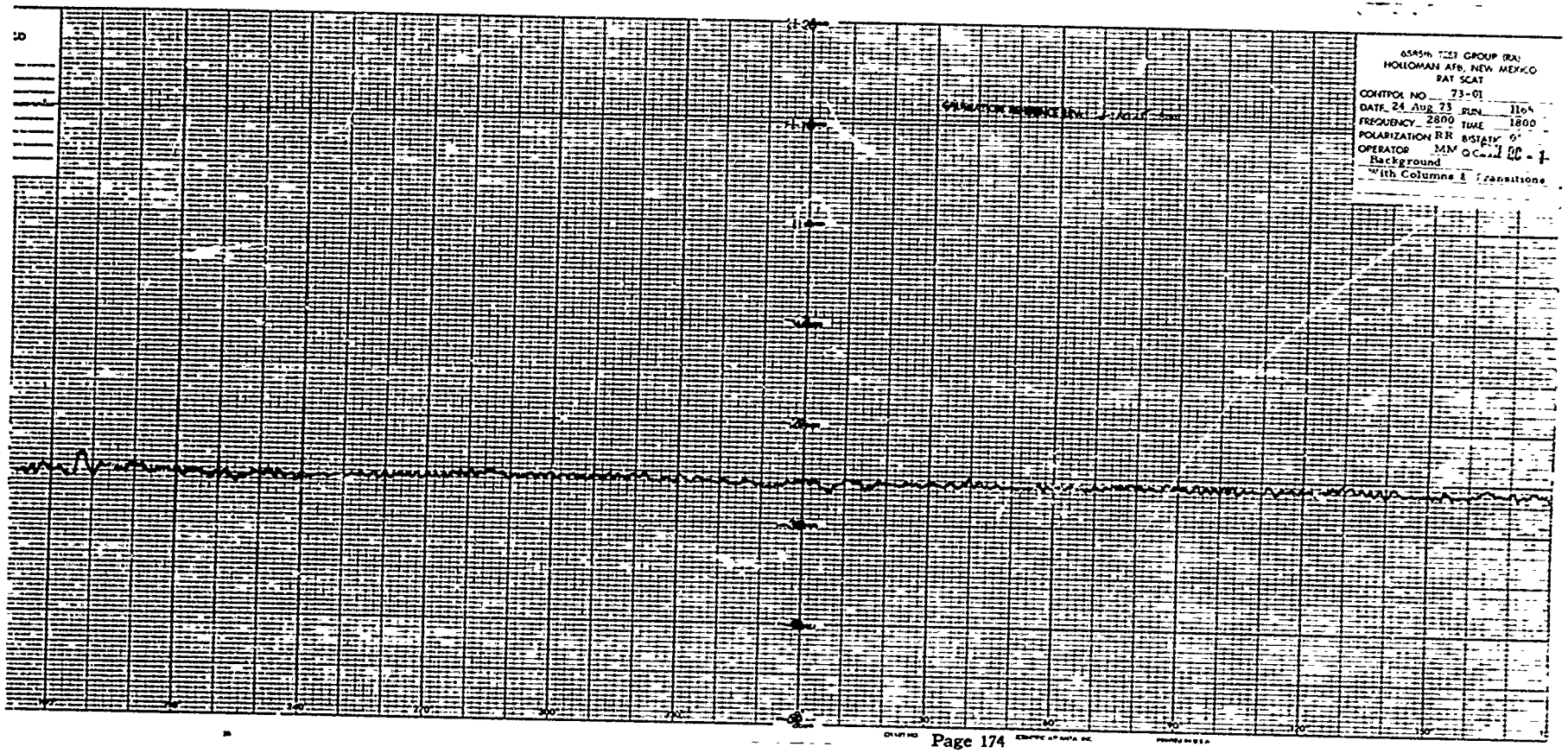

6585th TEST GROUP (RX)
HOLLOMAN AFB, NEW MEXICO
RAT SCAT
CONTROL NO 73-91
DATE 21 AUG 73 RUN 971
FREQUENCY 2800 TIME 0810
POLARIZATION RR AZSTATIC 0°
OPERATOR JS QC DTN QC -1
Super Cub
45° Roll, +10° Pitch
-30
-20
-10
-0
-10
-20
-30
0
30
60
90
120
150
180

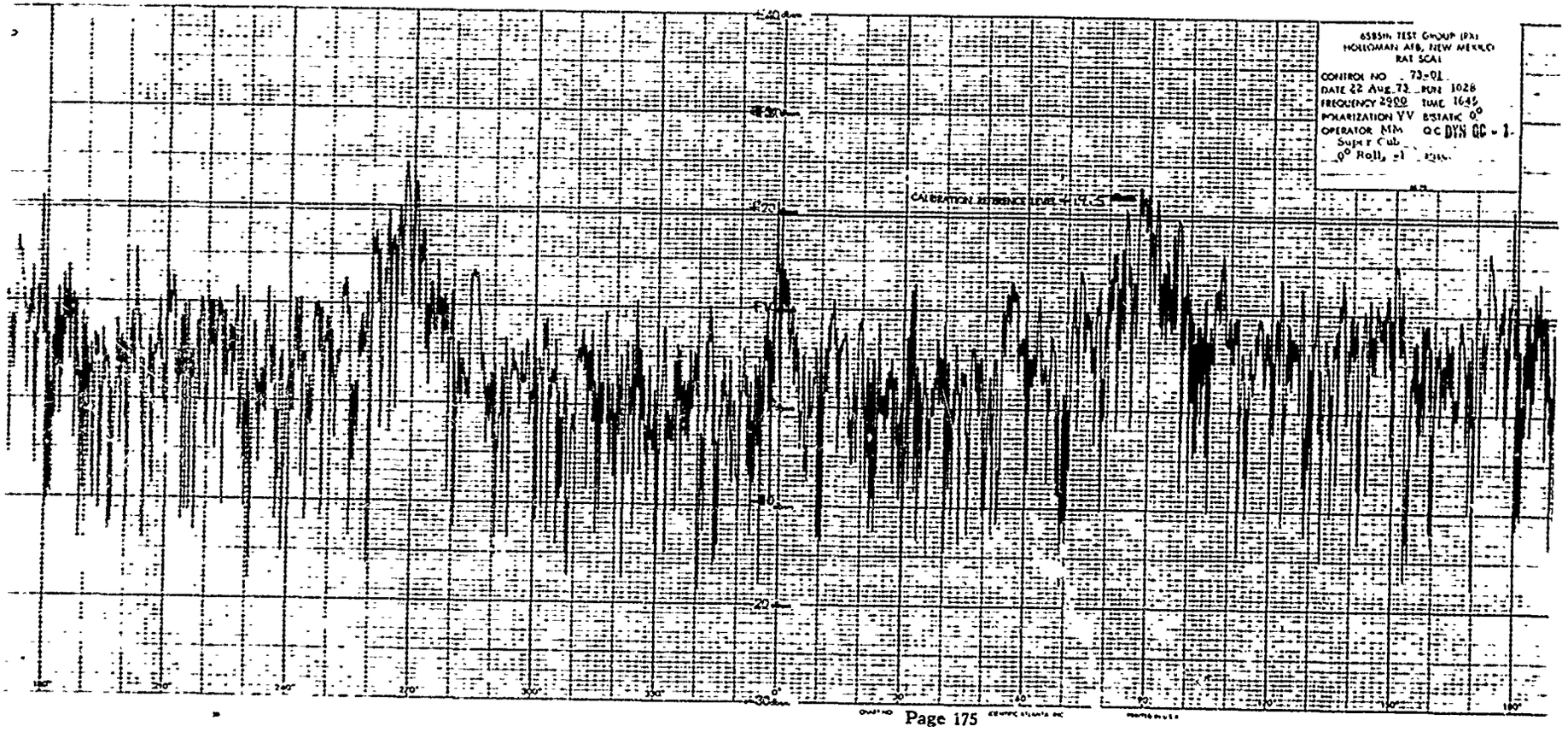

6585th TEST GROUP (RX)
HOLLOMAN AFB, NEW MEXICO
RAT SCAT
CONTROL NO. 23-01
DATE 20 Aug 73 RUN 950
FREQUENCY 2800 TIME 1240
POLARIZATION RR BISTATIC 0°
OPERATOR JS OC DYN GC-1
Super Cub
45° Roll -5° Pitch

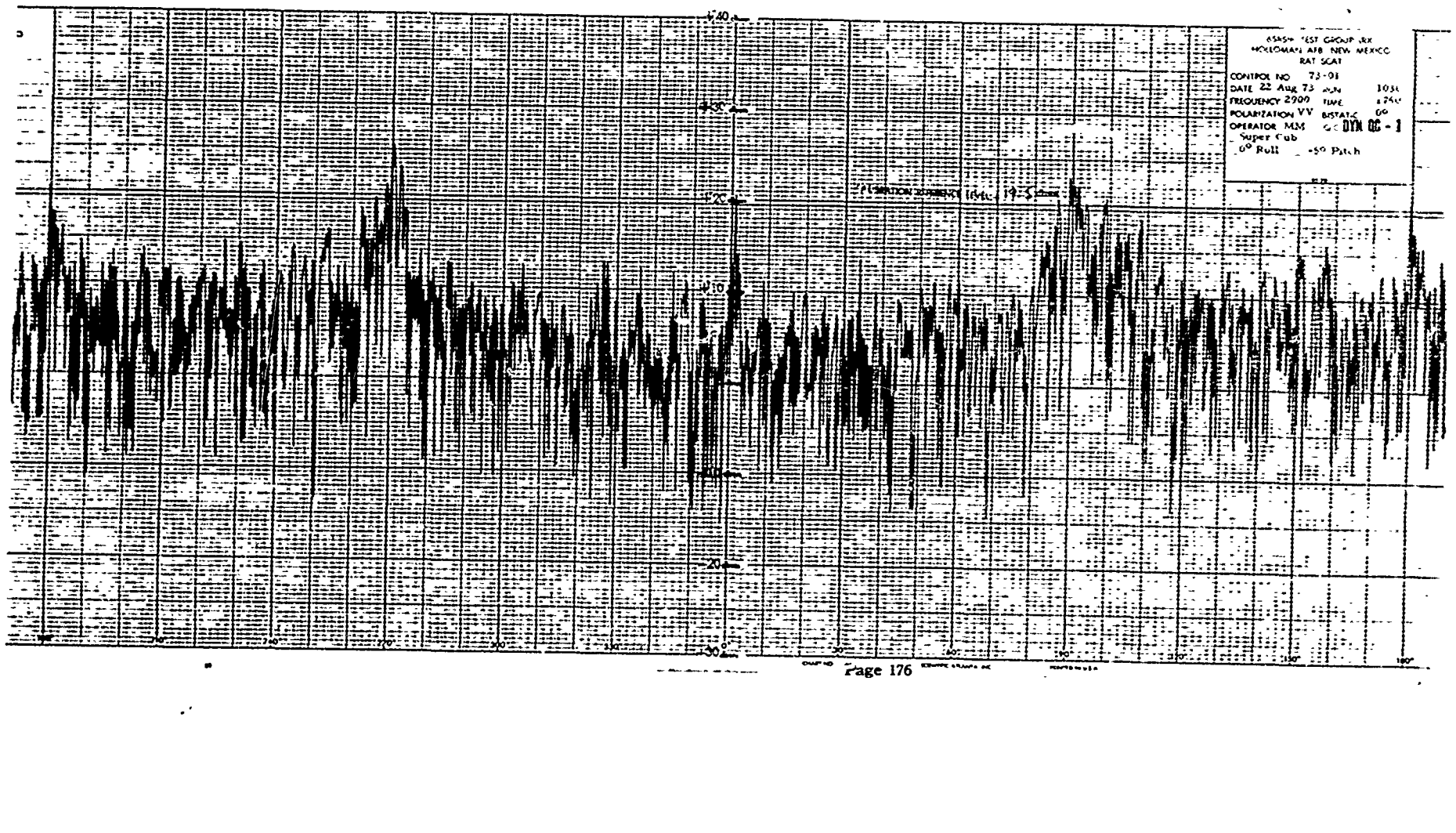

6585th TEST GROUP (RH)
HOLLOMAN AFB, NEW MEXICO
RAT SCAT
CONTROL NO. 73-01
DATE 20 AUG 73 RUN 945
FREQUENCY 2800 TIME 1105
POLARIZATION RR BISTATIC 0°
OPERATOR JS
Super Cub
45° Roll 0° Pitch
+30
+20
+10
-10
-20
-30
-40
180°
150°
120°
90°
60°
30°
0°
30°
60°
90°
120°
150°
180°

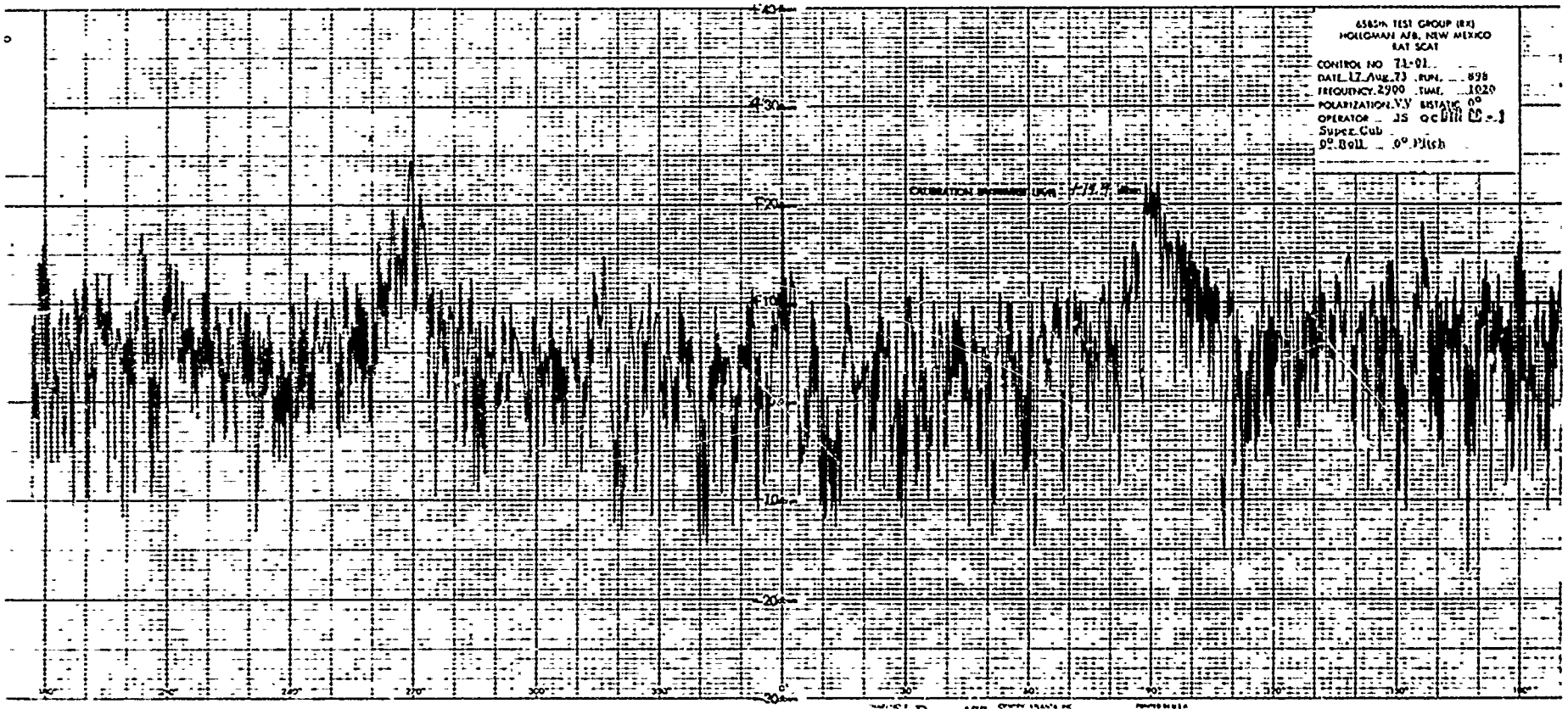

6585th TEST GROUP (RX)
HOLLOMAN AFB NEW MEXICO
RAT SCAT
CONTROL NO. 73-01
DATE 22 Aug 73 RUN 1195
FREQUENCY 2800 TIME 1025
POLARIZATION RR BISTATIC 0°
OPERATOR JS
Super Cub
45° Roll ±5° Pitch
-30dBsm
-40dBsm

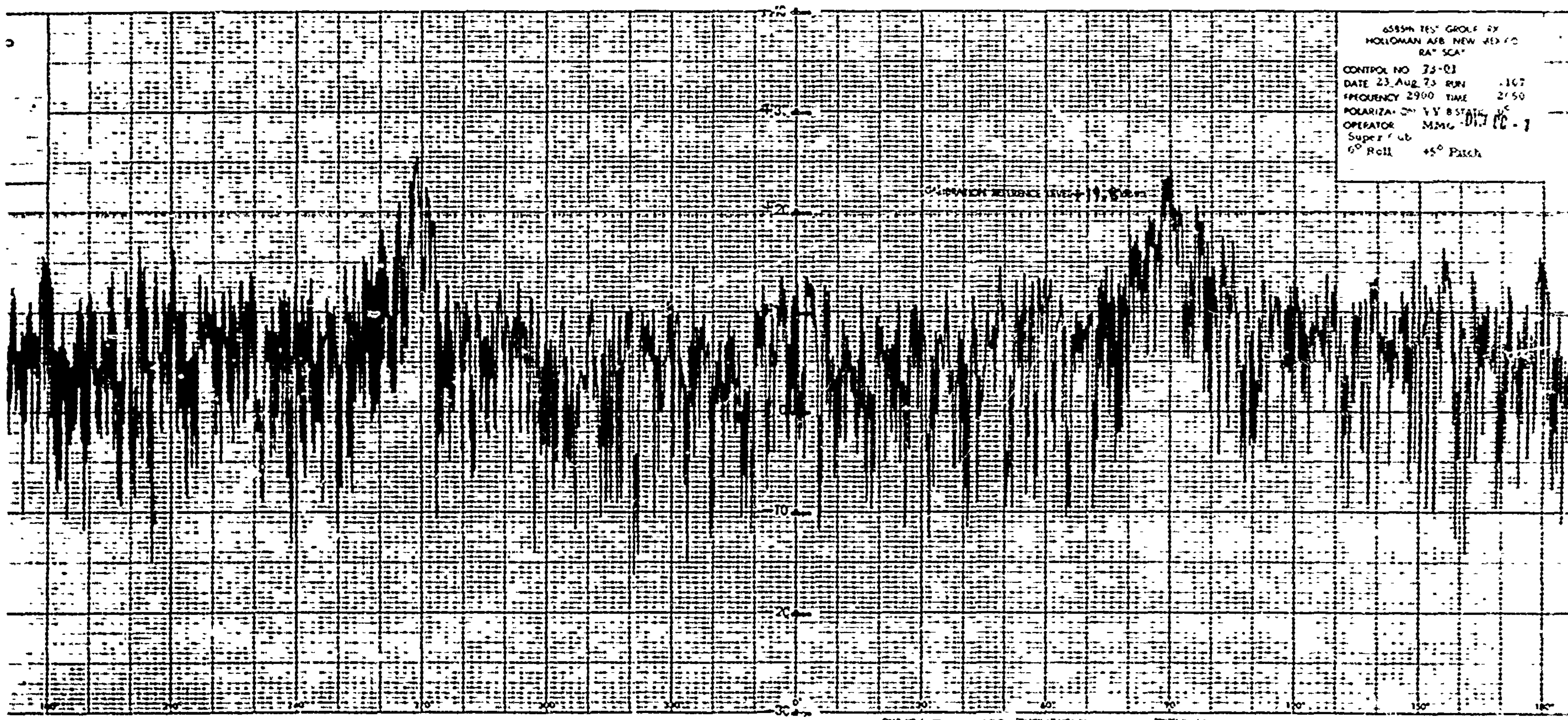

6555th TEST GROUP (RX)
HOLLOMAN AFB NEW MEXICO
RAT SCAT
CONTROL NO. 73-91
DATE 23 Aug 73 RUN. 1186
FREQUENCY 2800 TIME 0825
POLARIZATION RR BISTATIC 0°
OPERATOR JS. QC. BYN QC-1
Super Cub
45° Roll. ±10° Pitch.
+30
+20
+10
0
-10
-20
-30
180°
210°
240°
270°
300°
330°
0°
30°
60°
90°
120°
150°
180°

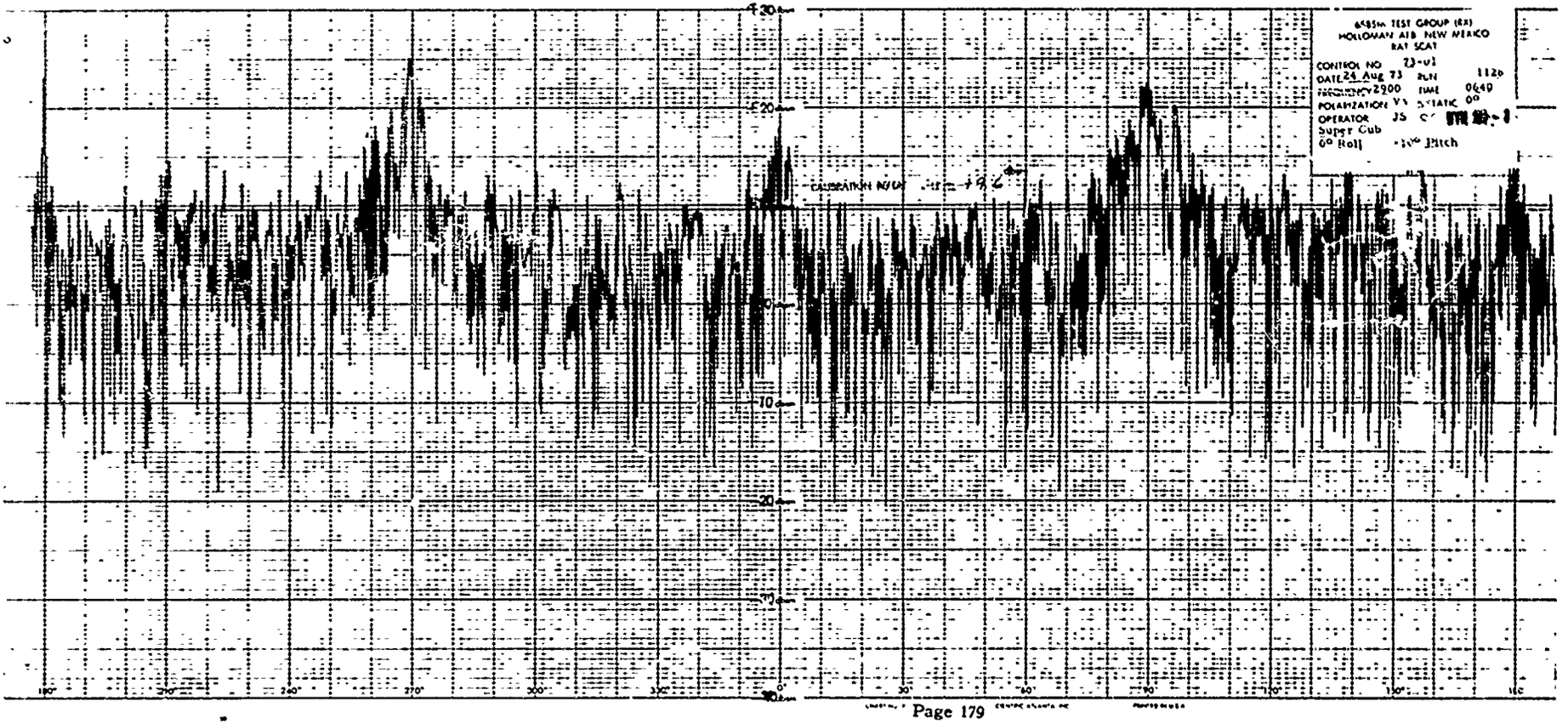

6585th TEST GROUP (RX)
HOLLOMAN AFB, NEW MEXICO
PAT SCAT
CONTROL NO 73-01
DATE 24 Aug 73
RUN 1164
FREQUENCY 2800
TIME 1800
POLARIZATION RR
BISTATIC 0°
OPERATOR MM
Background
With Columns & Transitions

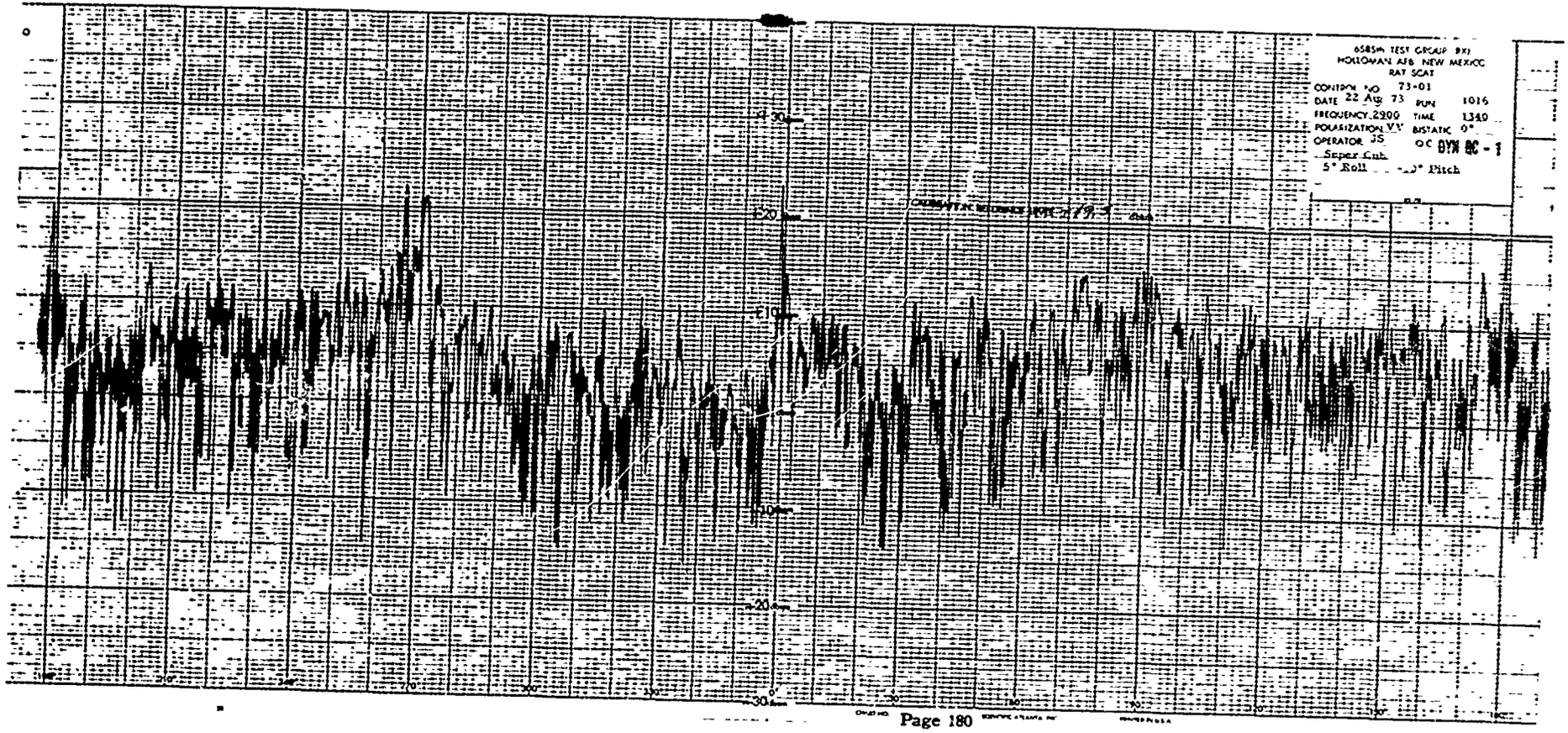

6585th TEST GROUP (PK)
HOLLOMAN AFB, NEW MEXICO
RAT SCAT
CONTROL NO 73-01
DATE 22 Aug 73 RUN 1028
FREQUENCY 2900 TIME 1645
POLARIZATION VV BISTATIC 0°
OPERATOR MM QC DYN QC - 1
Super Cub
0° Roll, ±1
CALIBRATION REFERENCE LEVEL +14.5
-40
-50
-60
-70
-80
-20
-30
180°
270°
0°
90°
180°

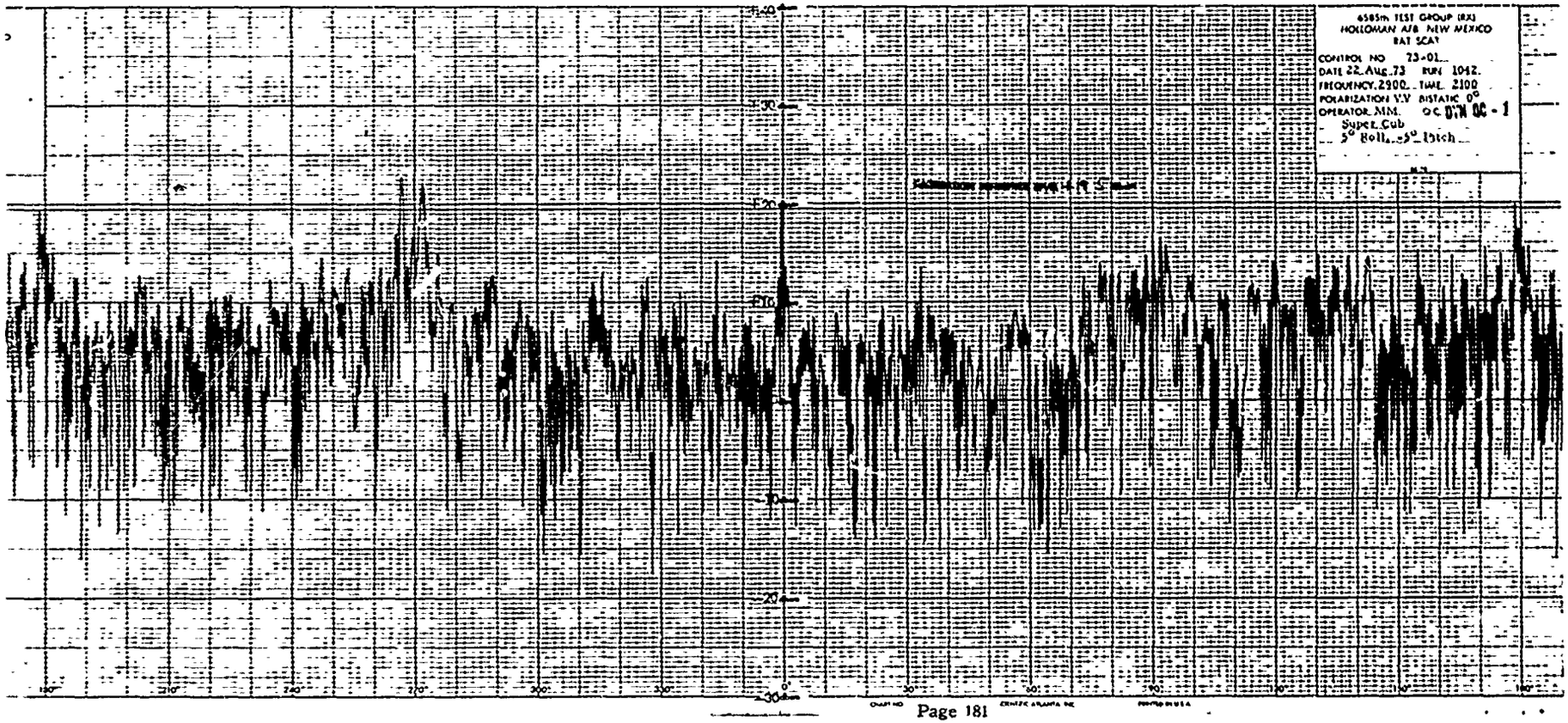

6585th TEST GROUP (RX
HOLLOMAN AFB NEW MEXICO
RAT SCAT
CONTROL NO 73-91
DATE 22 Aug 73
FREQUENCY 2900
POLARIZATION VV
OPERATOR MM
Super Cub
0° Roll
+5° Pitch
DYN QC - 1
-40
-30
-20
-10
0
10
20
30

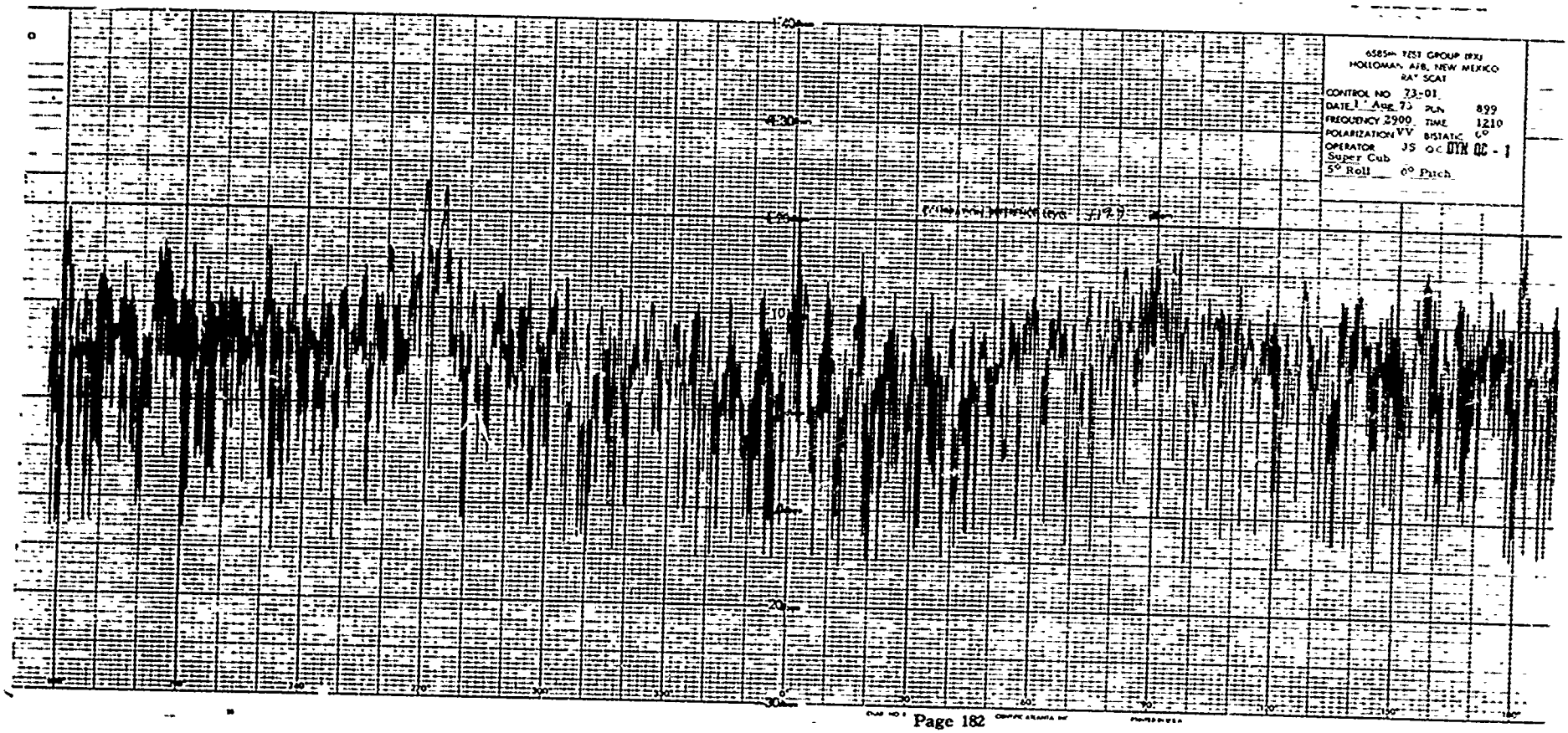

6585th TEST GROUP (RX)
HOLLOMAN AFB, NEW MEXICO
RAT SCAT
CONTROL NO 71-01
DATE 17 Aug 73 RUN 898
FREQUENCY 2900 TIME 1020
POLARIZATION V,V BISTATIC 0°
OPERATOR JS
Super Cub
0° Roll 0° Pitch
+40
+30
+20
+10
0
-10
-20
-30

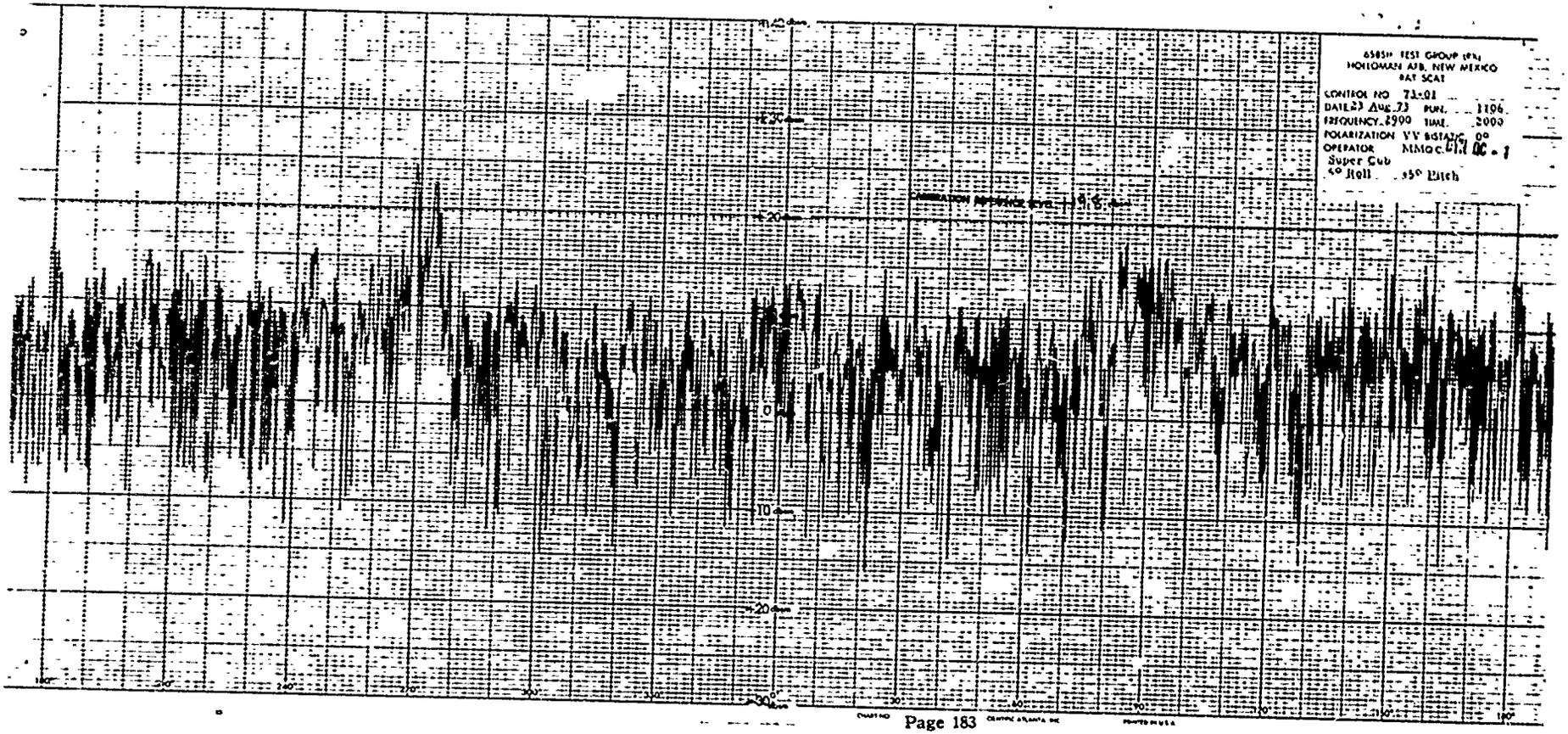

6585th TEST GROUP RX
HOLLOMAN AFB NEW MEXICO
RAT SCAT
CONTROL NO 73-01
DATE 23 Aug 73 RUN .107
FREQUENCY 2900 TIME 2150
POLARIZATION VV BSTATIC
OPERATOR Mang
Super Cub
0° Roll +5° Patch
CALIBRATION REFERENCE LEVEL
+30
+20
+10
0
10
20
30
0°
30°
60°
90°
120°
150°
180°
210°
240°
270°
300°
330°

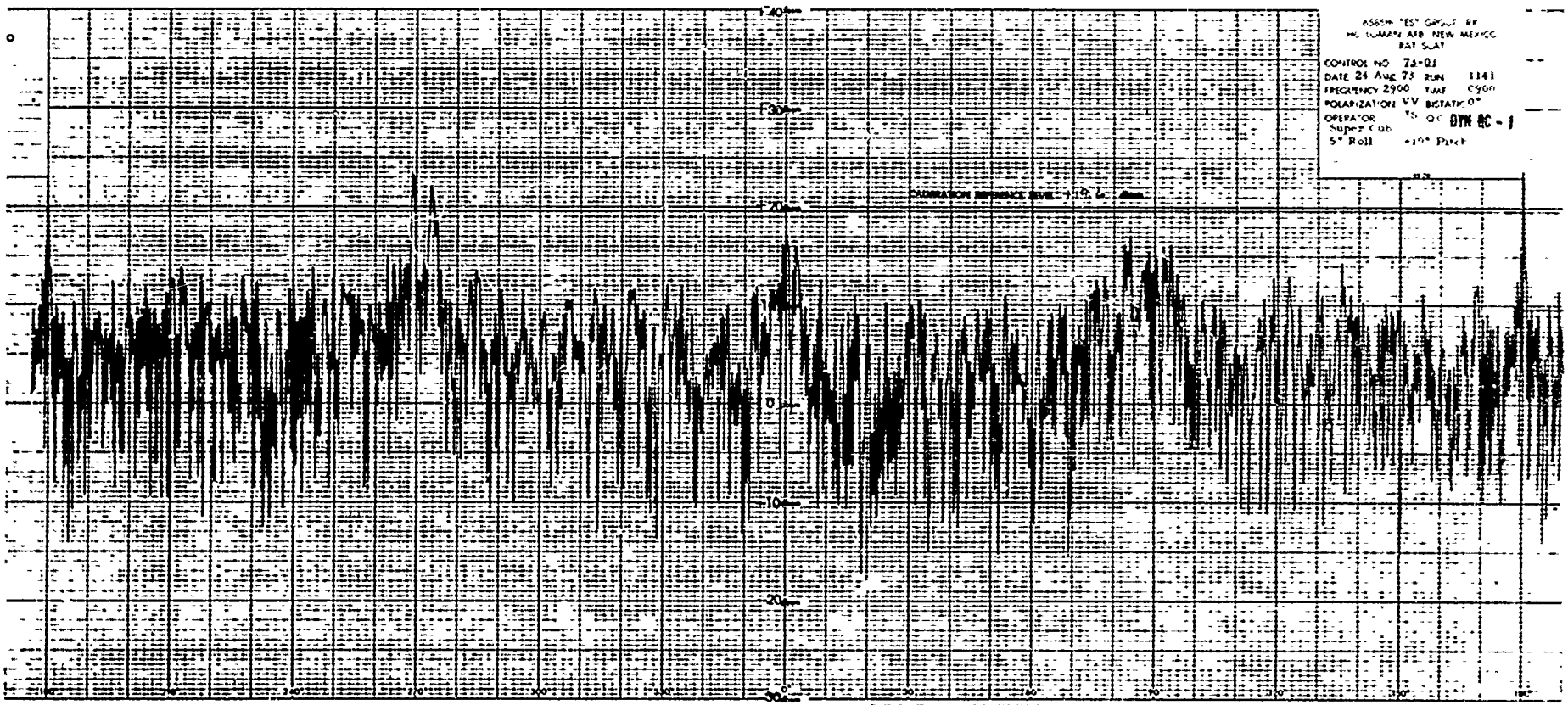

6585th TEST GROUP (RX)
HOLLOMAN AFB NEW MEXICO
RAT SCAT
CONTROL NO 73-01
DATE 24 Aug 73 RUN 1120
FREQUENCY 2900 TIME 0649
POLARIZATION VV STATIC 0°
OPERATOR JS
Super Cub
0° Roll +10° Pitch
CALIBRATION NOW
+30
+20
+10
0
-10
-20
-30
180°
240°
270°
300°
330°
0°
30°
60°
90°
120°
150°

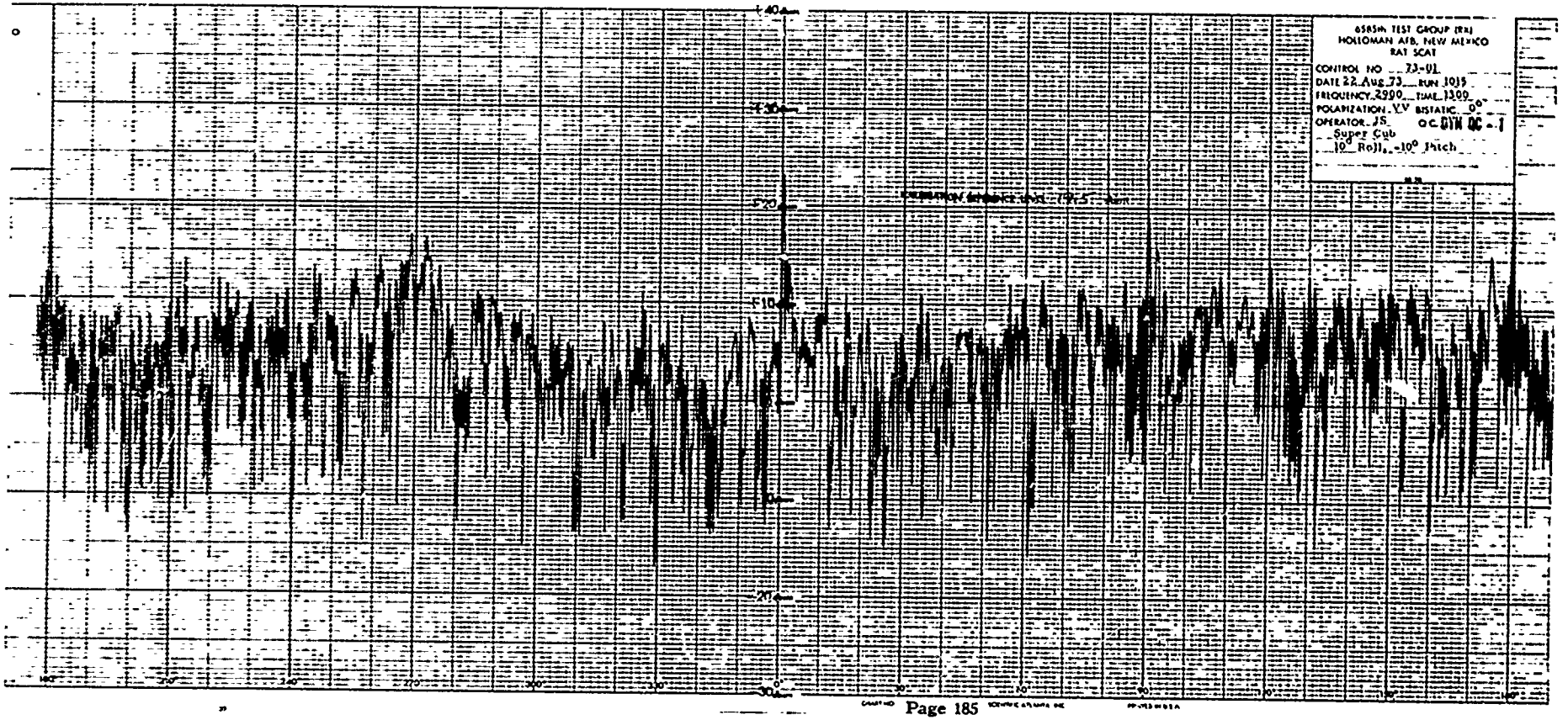

6585th TEST GROUP (RX)
HOLLOMAN AFB, NEW MEXICO
RAT SCAT
CONTROL NO 73-01
DATE 22 Aug 73 RUN 1016
FREQUENCY 2200 TIME 1349
POLARIZATION V-V BISTATIC 0°
OPERATOR JS QC DYN RC - 1
Super Cub
5° Roll -.-° Pitch
+30 dBsm
+20 dBsm
+10 dBsm
-10 dBsm
-20 dBsm
-30 dBsm
0°
30
90
150
210
270
330

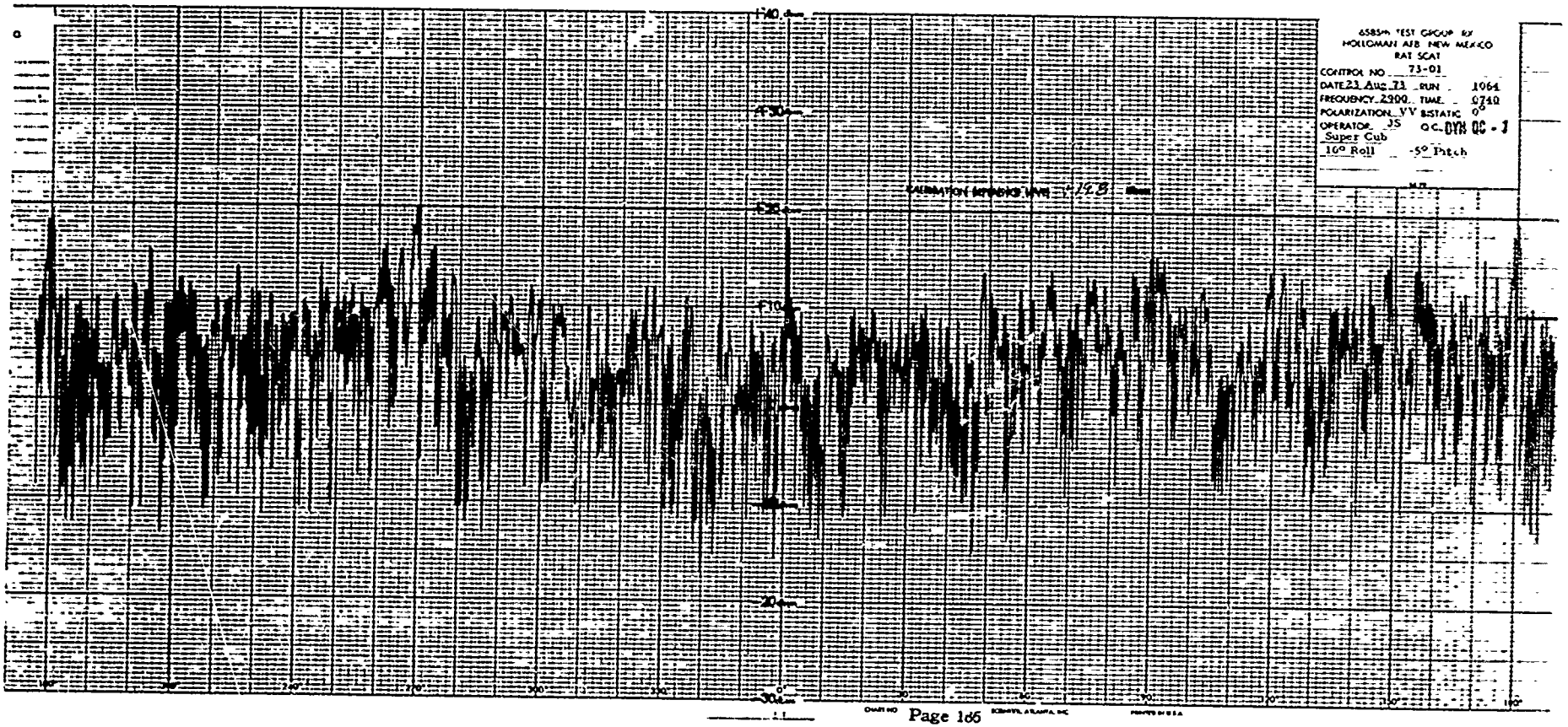

6585th TEST GROUP (RX)
HOLLOMAN A/B NEW MEXICO
BAT SCAT
CONTROL NO 73-01
DATE 22 Aug 73 RUN 1042
FREQUENCY 2900 TIME 2100
POLARIZATION V-V BISTATIC 0°
OPERATOR MM OC DTN OC - 1
Super Cub
5° Roll, 5° Pitch
-10
-20
-30
0°
30
60
90
120
150
180
210
240
270
300
330

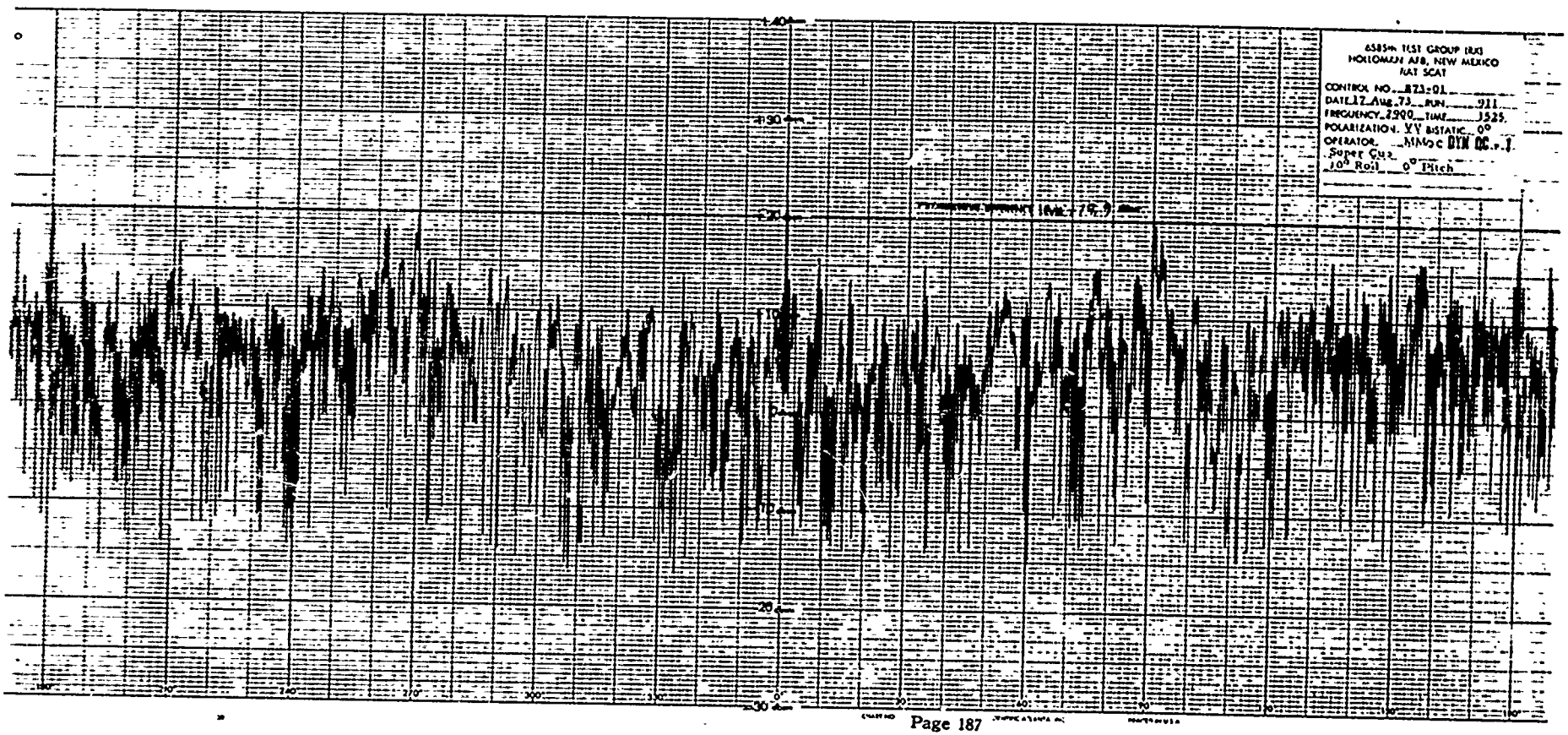

6585th TEST GROUP (PX)
HOLLOMAN AFB, NEW MEXICO
RAT SCAT
CONTROL NO 73-01
DATE 1 Aug 73
FREQUENCY 2900
POLARIZATION VV
OPERATOR JS
Super Cub
5° Roll
0° Pitch
PLN 899
TIME 1210
BISTATIC 0°
QC DYN QC - 1

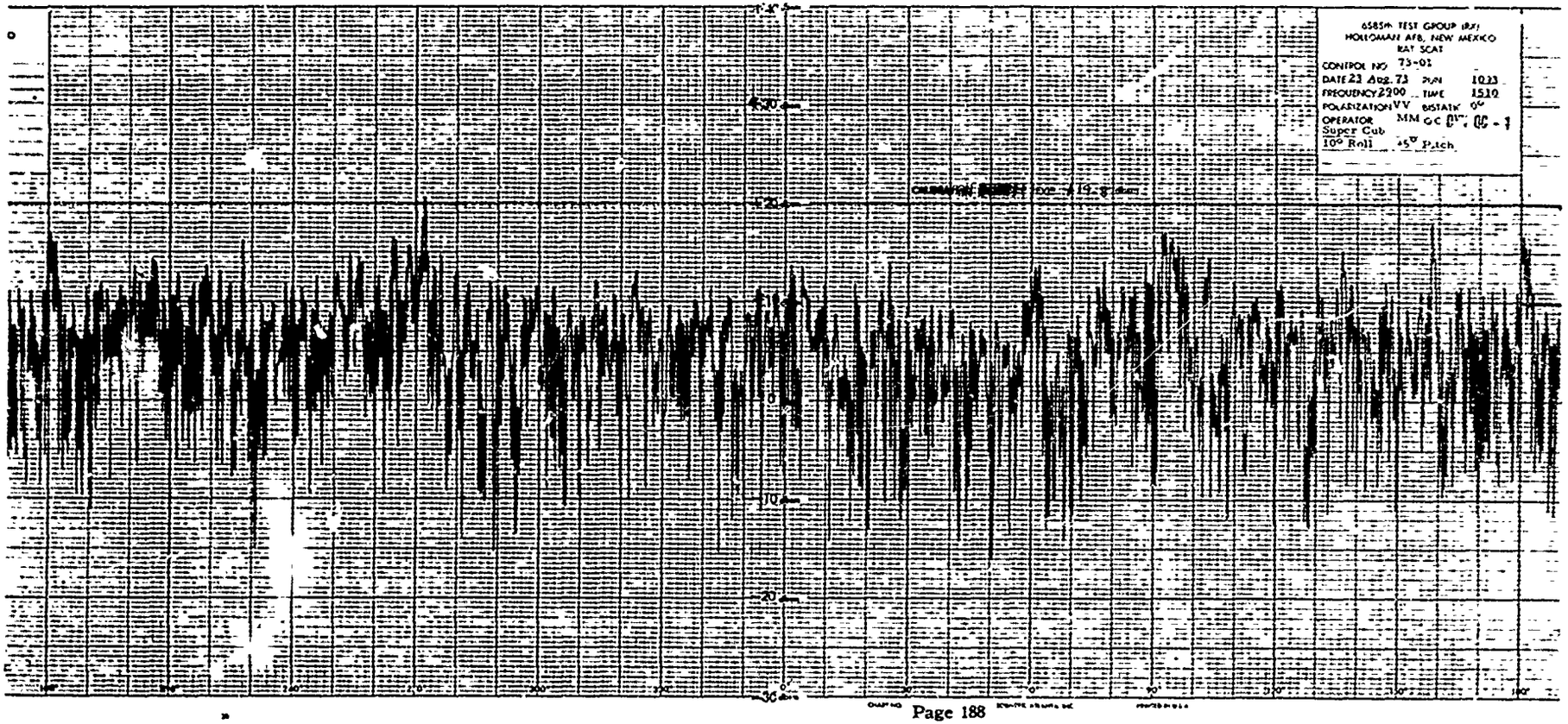

6585th TEST GROUP (PK)
HOLLOMAN AFB, NEW MEXICO
RAT SCAT
CONTROL NO 73-01
DATE 23 Aug 73 RUN 1196
FREQUENCY 2900 TIME 2000
POLARIZATION VV BISTATIC 00
OPERATOR MMQC
Super Cub
40 Roll 55° Pitch
+30
+20
0
-10
-20
-30
180°
240°
300°
360°
30°
60°
90°
120°
150°
180°

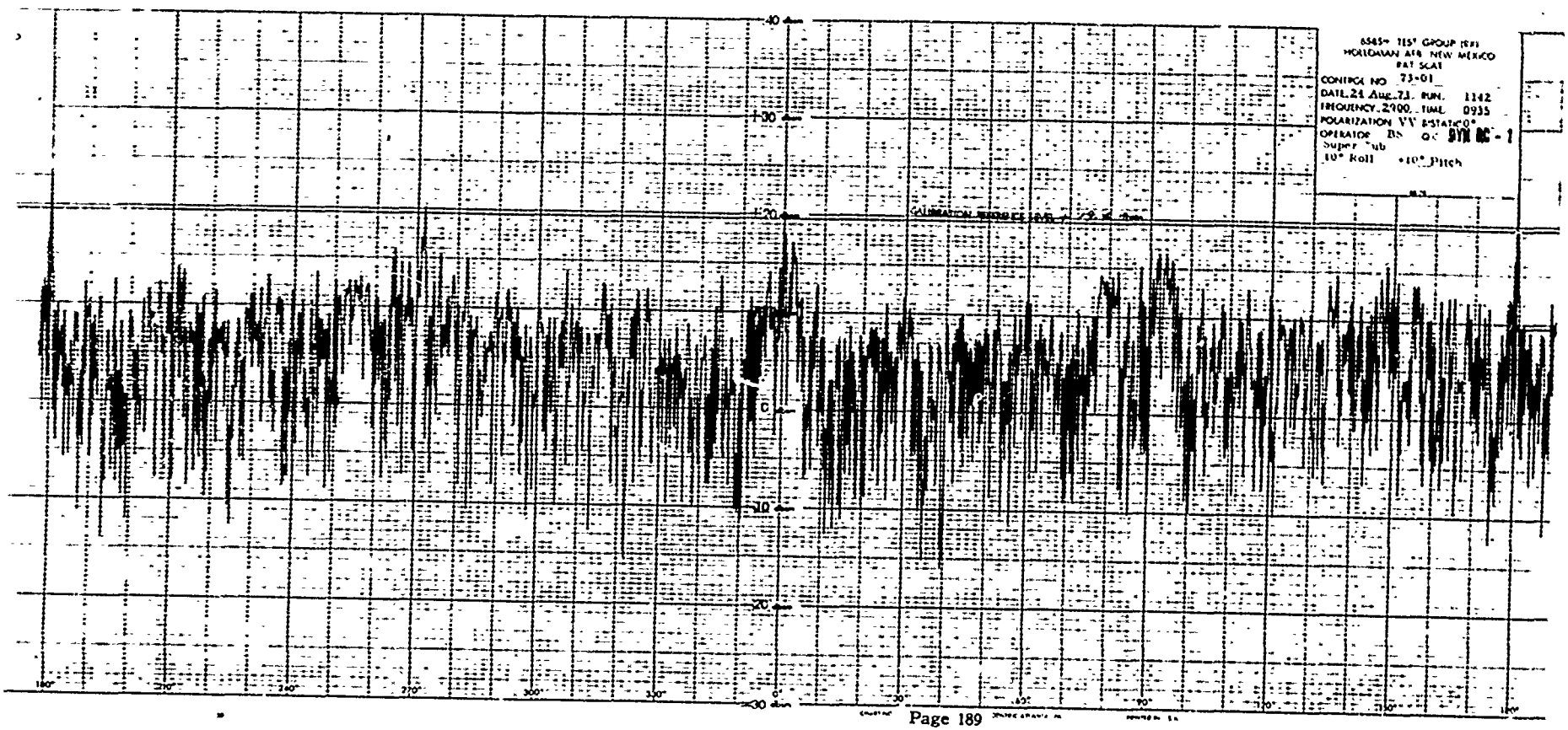

6565th TEST GROUP (AF
HOLLOMAN AFB NEW MEXICO
RAT SLAT
CONTROL NO 73-03
DATE 24 Aug 73 RUN 1141
FREQUENCY 2900 TIME 0900
POLARIZATION VV BISTATIC 0°
OPERATOR TS QC DYN RC - 1
Super Cub
5° Roll +10° Pitch
+40
+30
+20
+10
0
-10
-20
-30

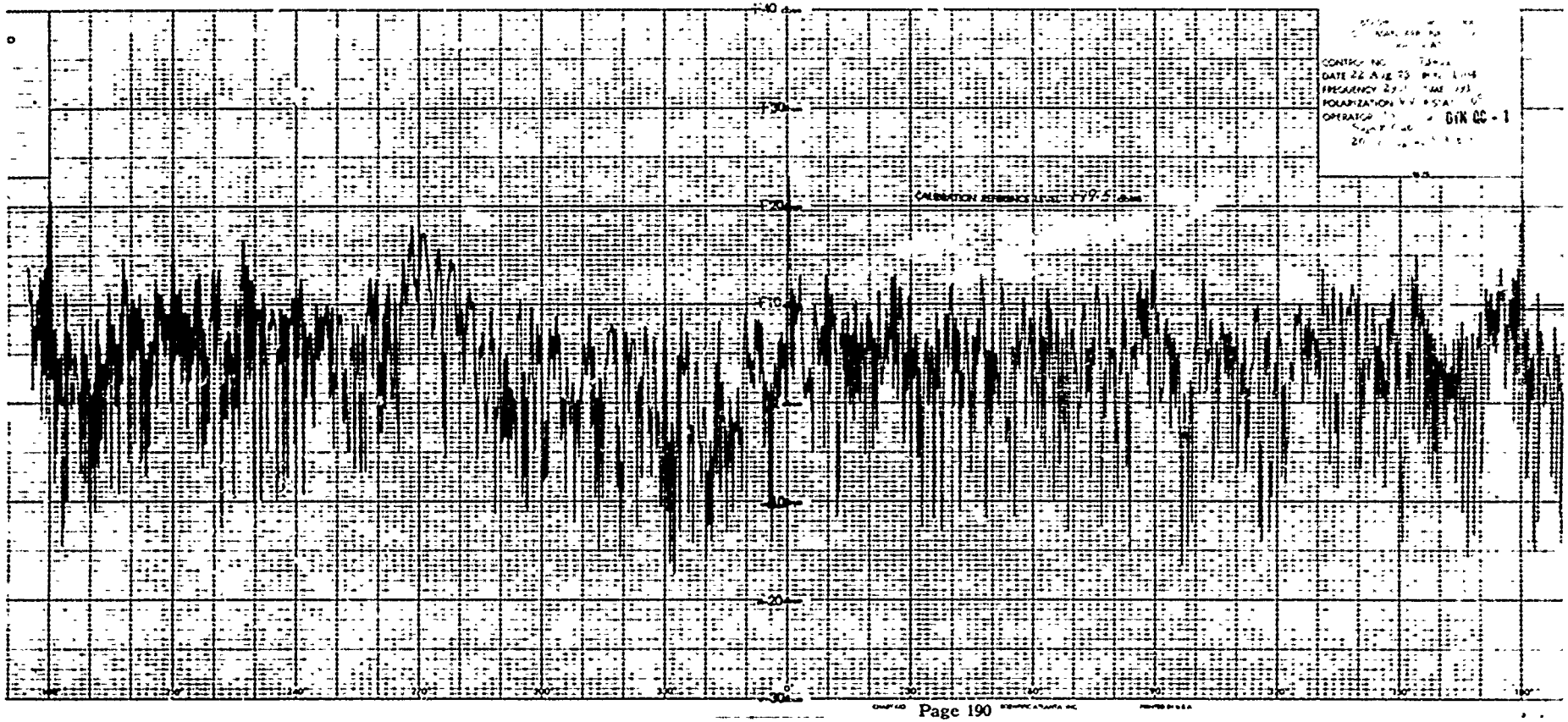

6585th TEST GROUP (RH)
HOLLOMAN AFB, NEW MEXICO
RAT SCAT
CONTROL NO 73-01
DATE 22 Aug 73 RUN 1015
FREQUENCY 2990 TIME 1309
POLARIZATION VV BISTATIC 0°
OPERATOR JS OC DIM OC - 1
Super Cub
10° Roll, -10° Pitch
40
30
20
10
0
-10
-20
-30
0°
30°
60°
90°

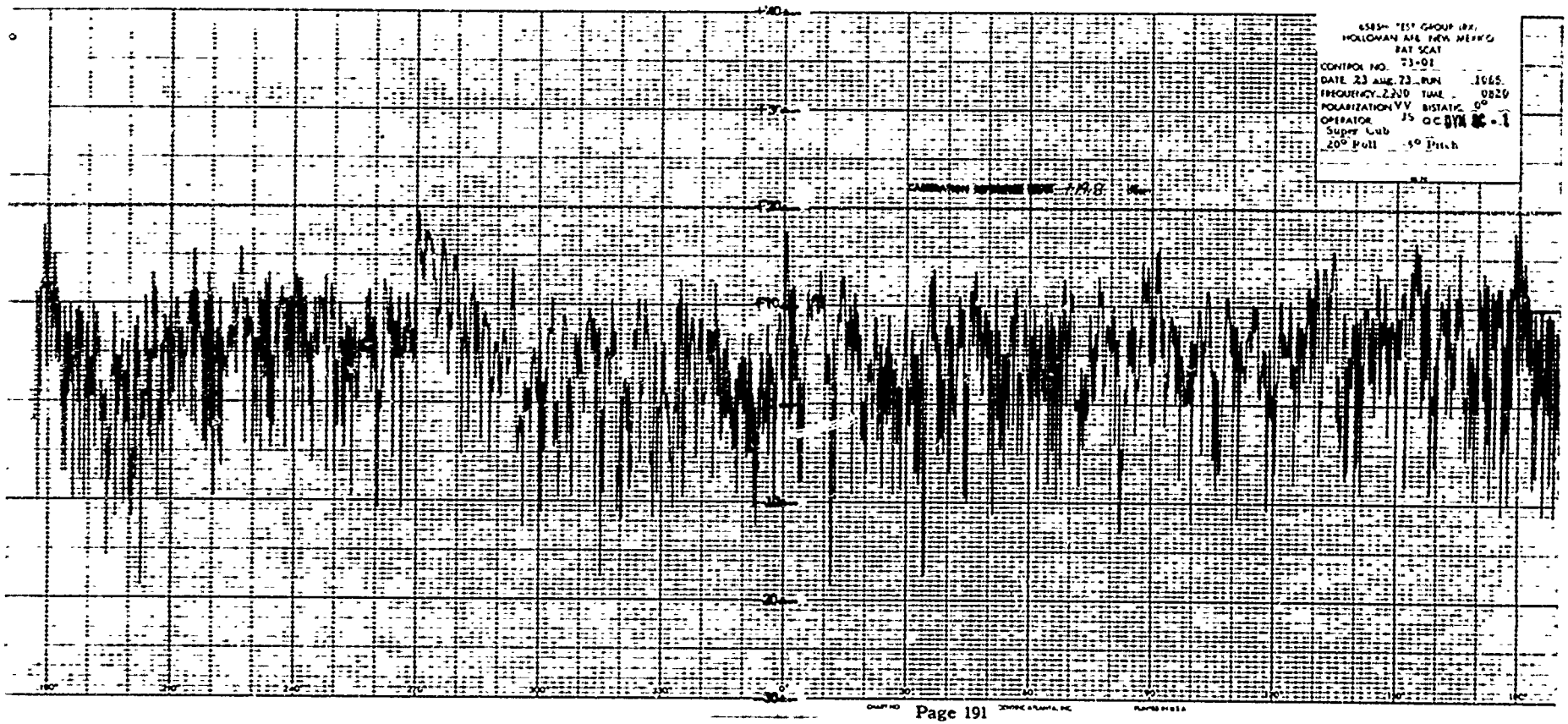

6585th TEST GROUP (D)
HOLLOMAN AFB NEW MEXICO
RAT SCAT
CONTROL NO. 73-01
DATE 23 Aug 73 RUN 1064
FREQUENCY 2900 TIME 0740
POLARIZATION VV BISTATIC 0°
OPERATOR JS QC-DYN QC - 1
Super Cub
10° Roll -5° Pitch
-140 dbsm
-130 dbsm
-120 dbsm
-110 dbsm
-100 dbsm
-90 dbsm
-80 dbsm
0°
30°
60°
90°
120°
150°
180°

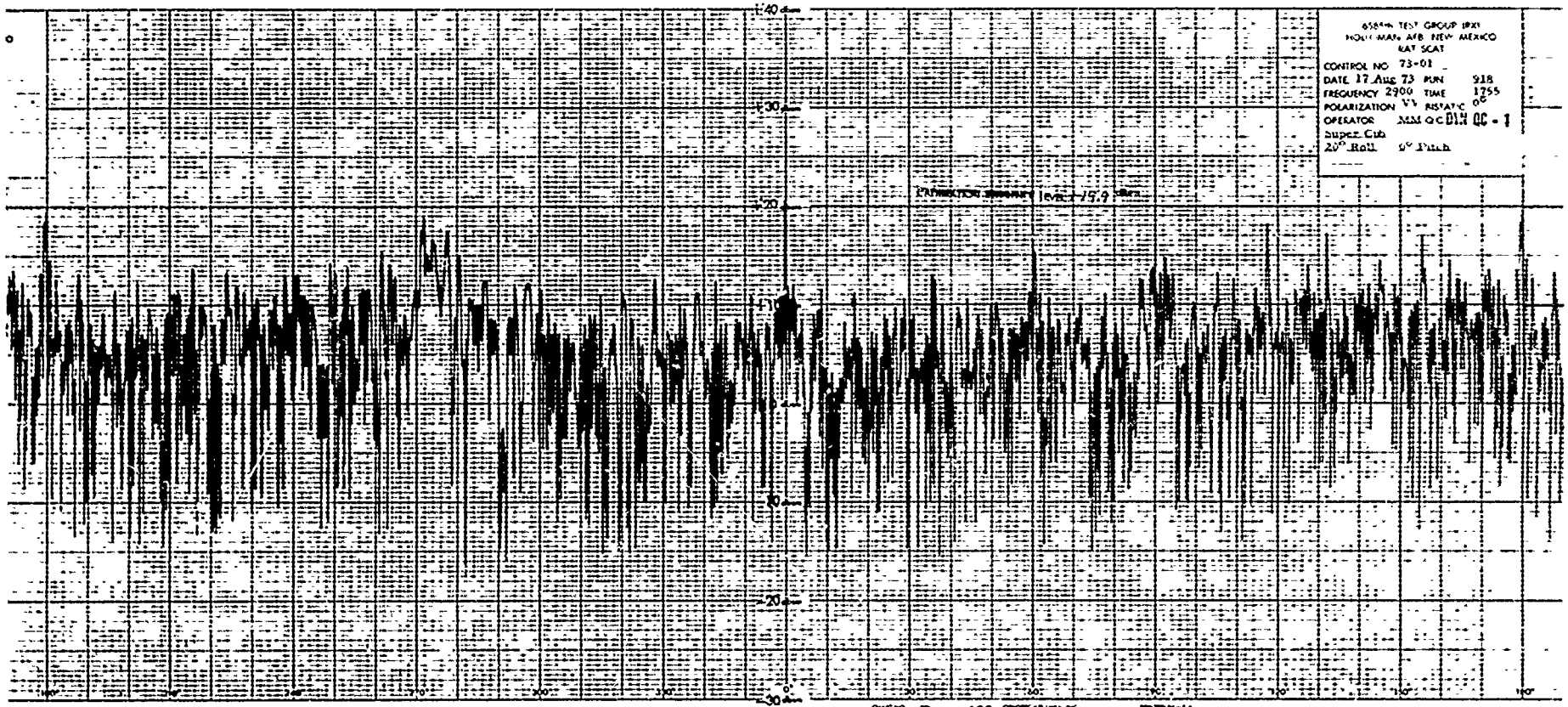

6585th TEST GROUP (RX)
HOLLOMAN AFB, NEW MEXICO
RAT SCAT
CONTROL NO. 873-01
DATE 17 Aug 73 RUN 911
FREQUENCY 2900 TIME 1525
POLARIZATION VV BISTATIC 0°
OPERATOR MMQC DYN QC, I.
Super Cuz
10° Roll 0° Pitch
140
130
120
110
100
90
80
70
60
50
40
30
20
10
0
-10
-20
-30
0°
30
60
90
120
150
180
210
240
270
300
330

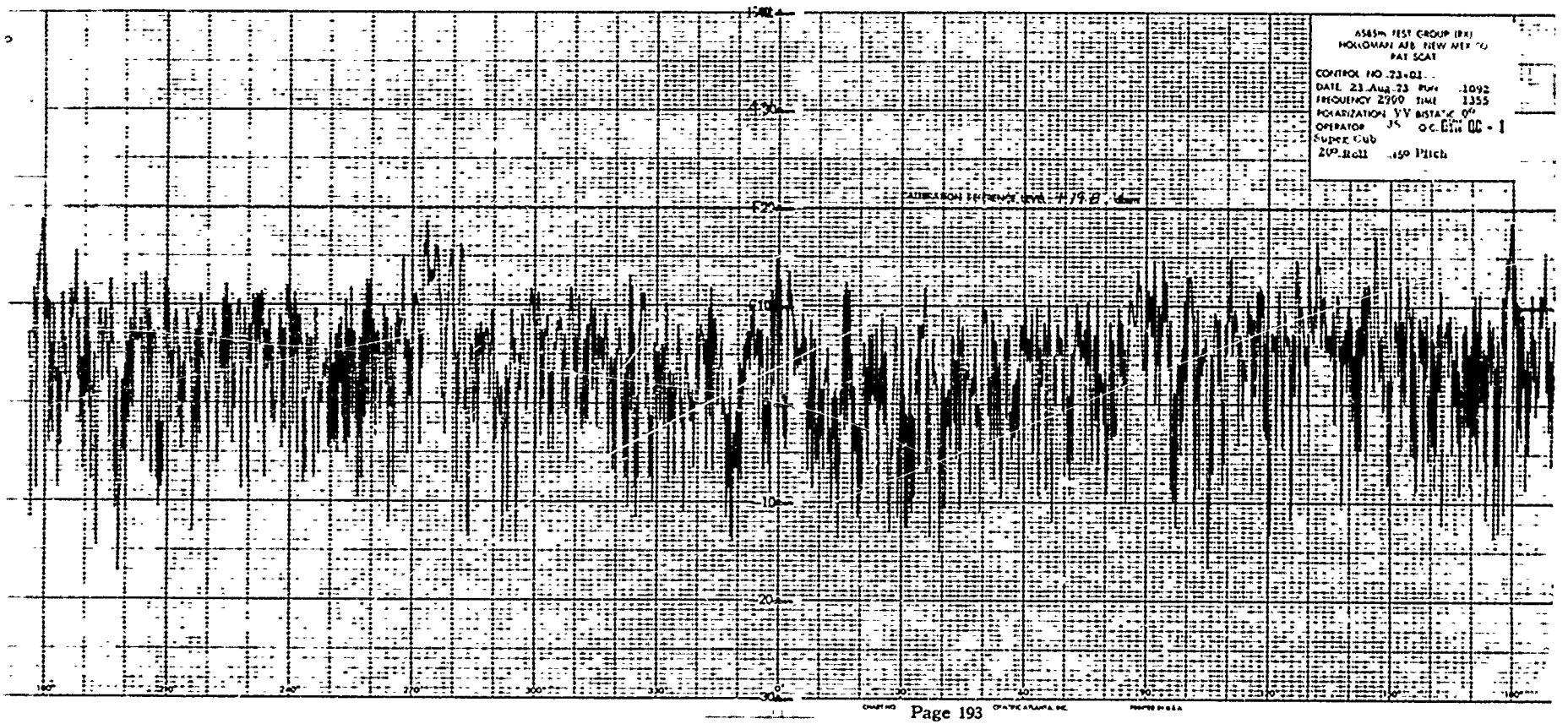

6585th TEST GROUP (RX)
HOLLOMAN AFB, NEW MEXICO
RAT SCAT
CONTROL NO 73-01
DATE 23 Aug. 73 P/M 1023
FREQUENCY 2900 TIME 1510
POLARIZATION VV BISTATIC 0°
OPERATOR MM GC
Super Cub
10° Roll 45° Pitch
-30
-20
-10
0
10
20
30

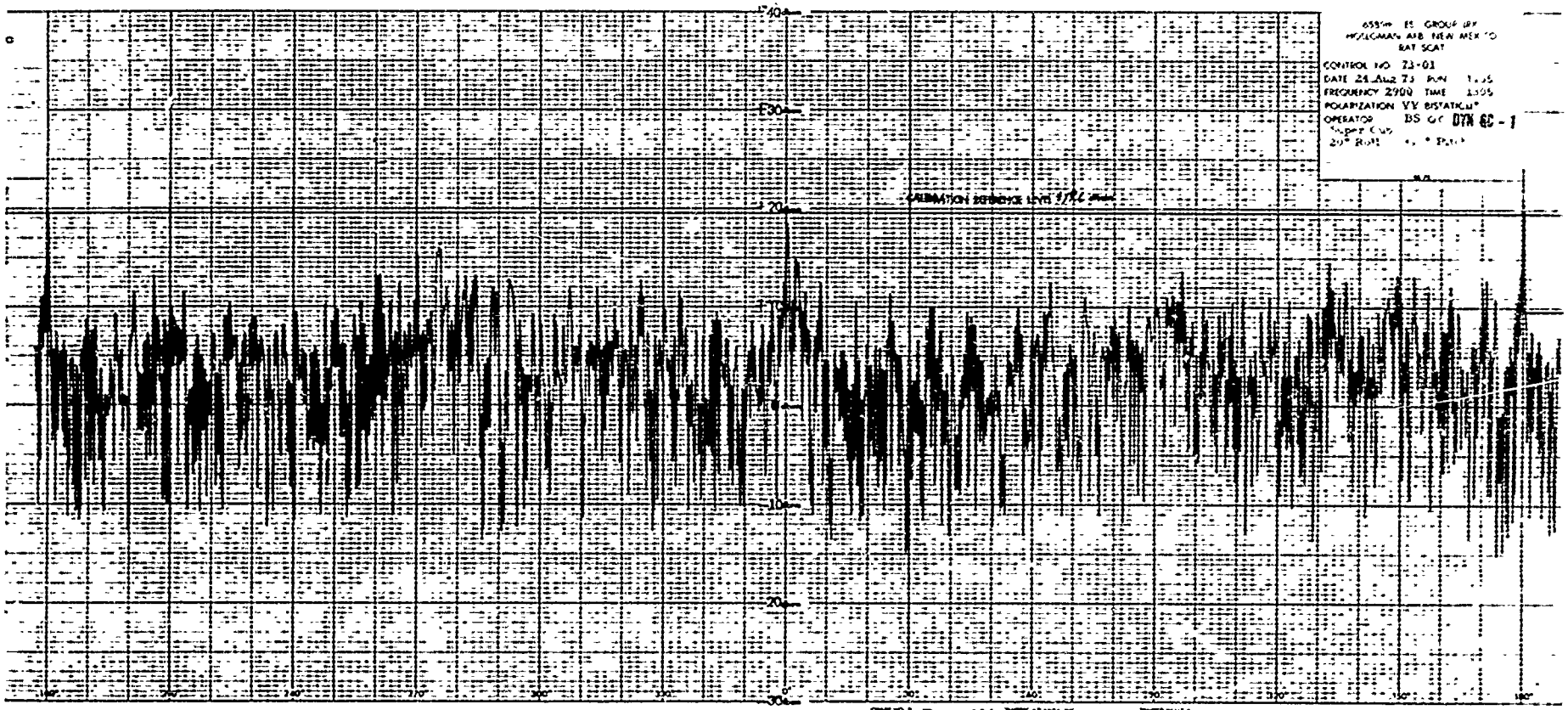

6585th TEST GROUP (RH)
HOLLOMAN AFB, NEW MEXICO
RAT SCAT
CONTROL NO. 73-01
DATE 24 Aug 73 RUN 1142
FREQUENCY 2900 TIME 0935
POLARIZATION VV 5 STATIC 0°
OPERATOR BS QC BYK MC - 1
Super Sub
10° Roll +10° Pitch
CALIBRATION SPHERE LEVEL
40
30
20
10
0
-10
-20
-30
180°
270°
240°
270°
300°
330°
0°
30°
60°
90°
120°
150°
180°

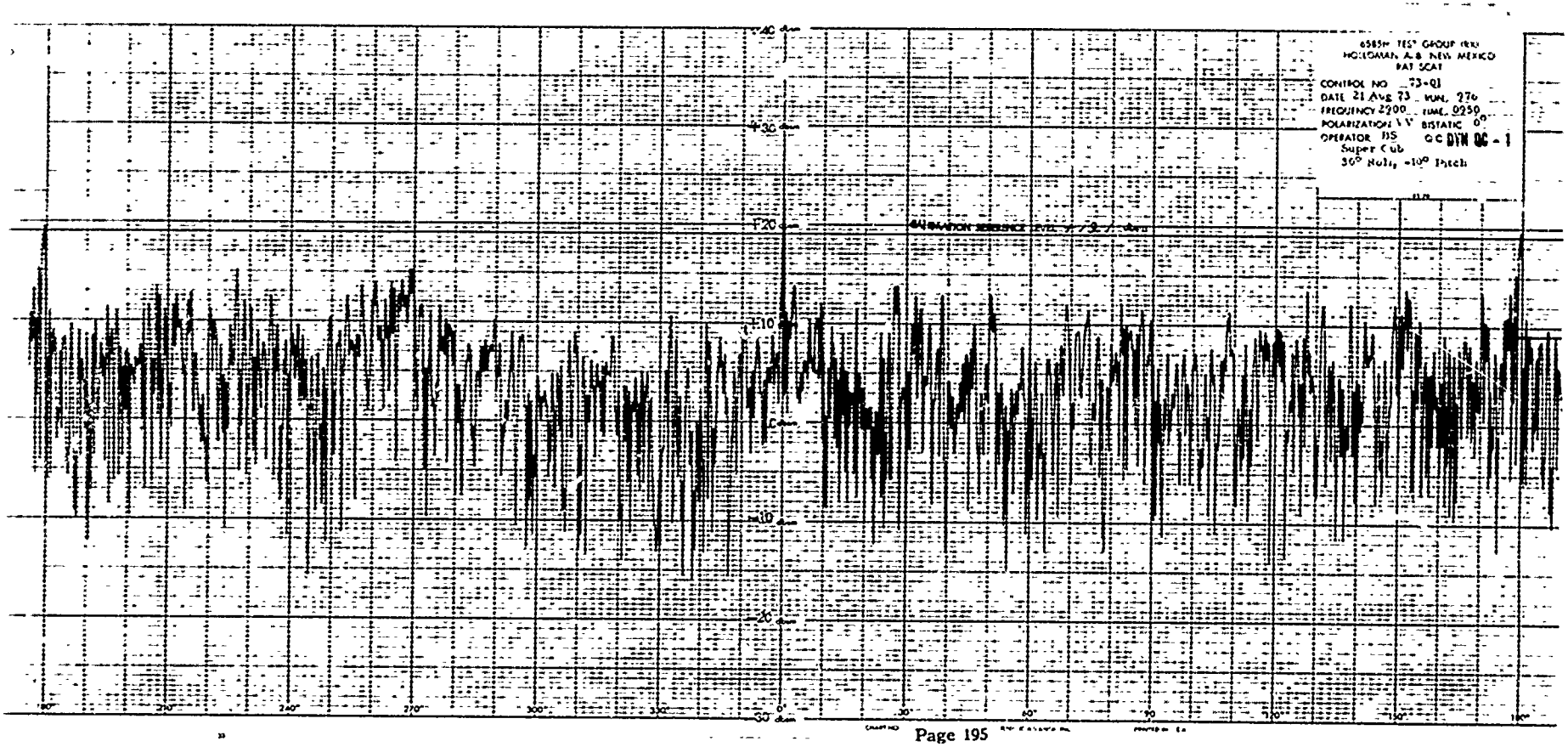

-40 dbm
-30
-20
-10
0
10
20
30
CALIBRATION REFERENCE LEVEL -79.5 dbm
GIK QC - 1

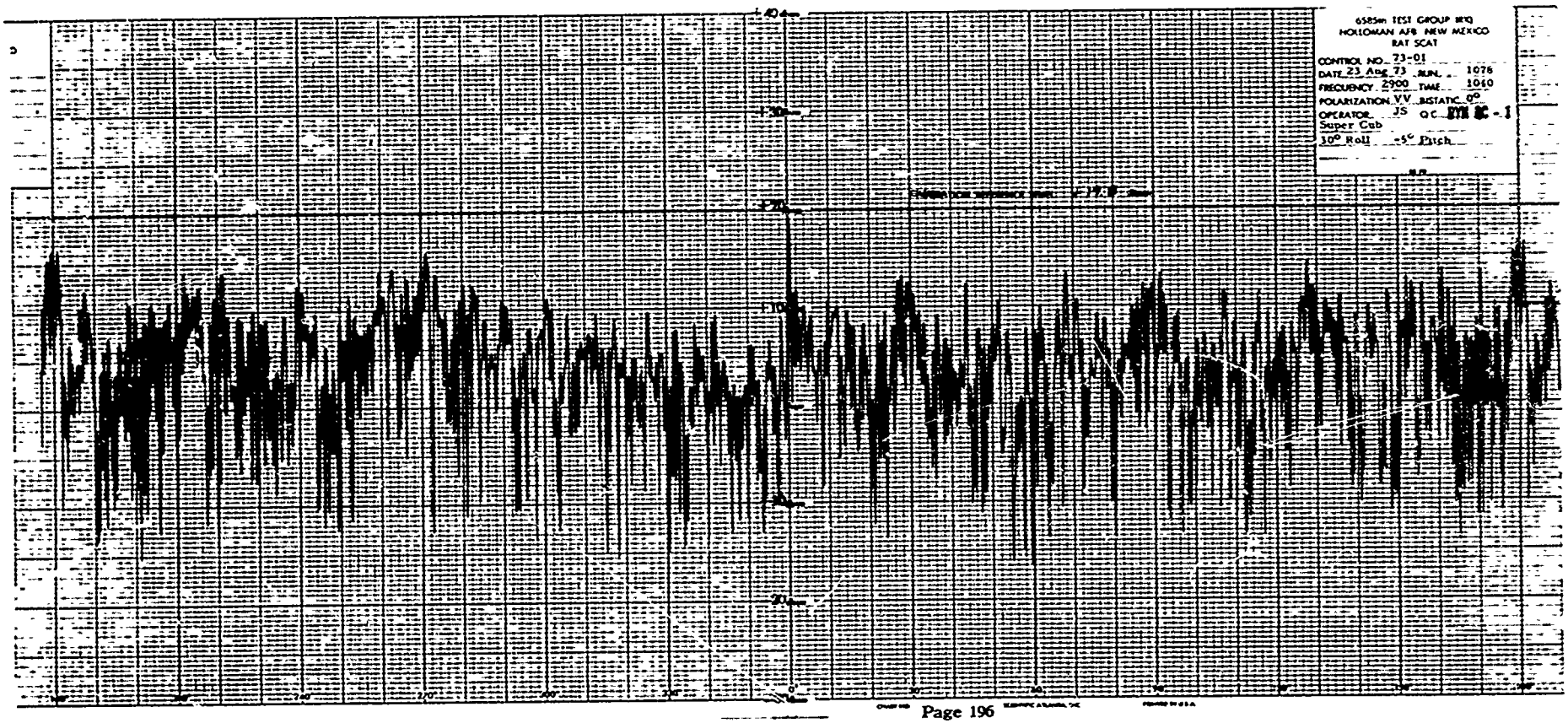

6585th "ES" GROUP (RX)
HOLLOMAN AFB NEW MEXICO
RAT SCAT
CONTROL NO. 73-01
DATE 23 AUG 73 RUN 1005
FREQUENCY 2200 TIME 0820
POLARIZATION VV BISTATIC 0°
OPERATOR JS QC DYN RC -1
Super Cub
20° Roll -5° Pitch
-10
-20
-30
180°
270°
0°
90°
180°

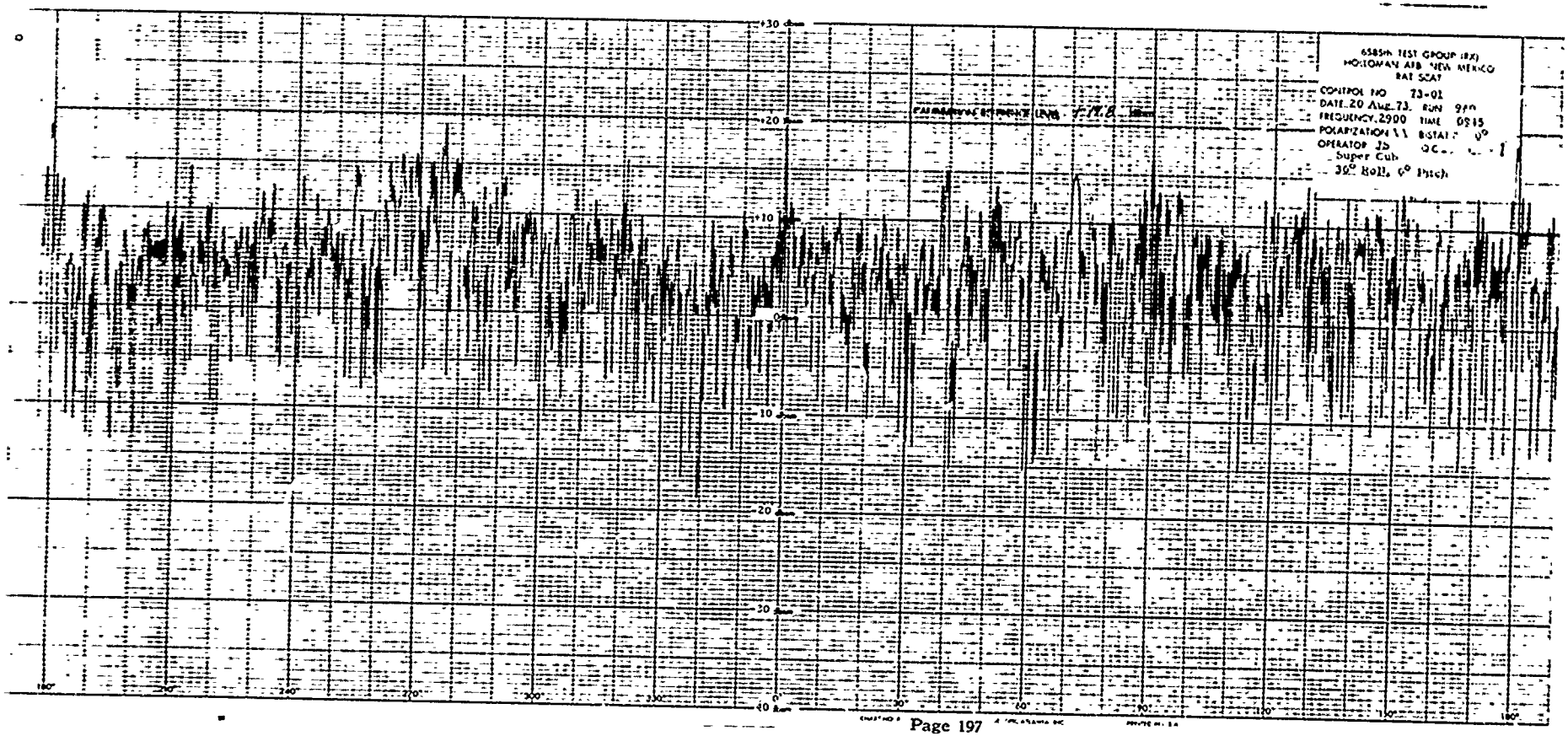

6584th TEST GROUP (RX)
HOLLOMAN AFB NEW MEXICO
RAT SCAT
CONTROL NO 73-01
DATE 17 Aug 73 RUN 918
FREQUENCY 2900 TIME 1755
POLARIZATION VV RSTATC 06
OPERATOR MSM QC DIN QC - 1
Super Cub
20° Roll 0° Pitch
+40
+30
+20
+10
0
-10
-20
-30

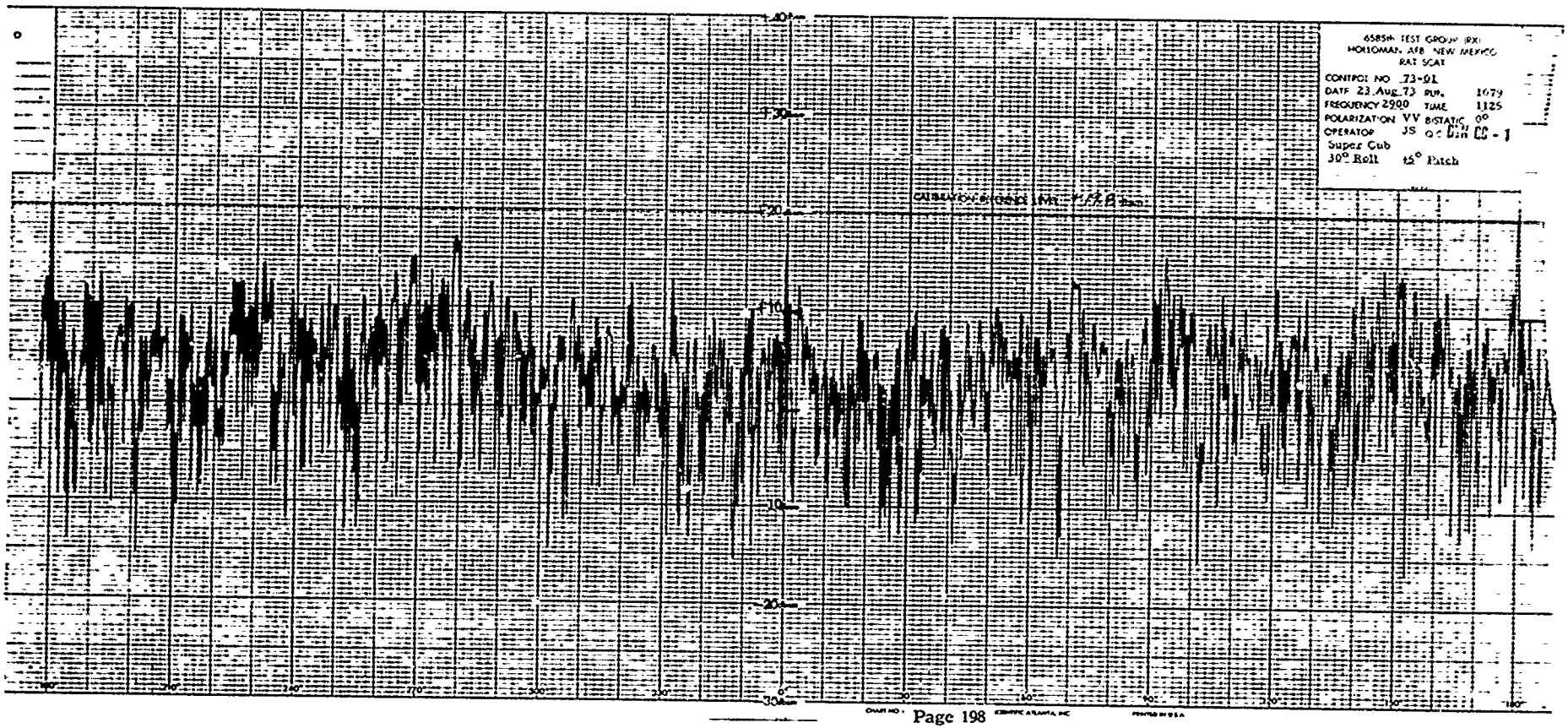

6585th TEST GROUP (RX)
HOLLOMAN AFB NEW MEX
PAT SCAT
CONTROL NO .73-03
DATE 23 Aug 73 Pulse 1092
FREQUENCY 2900 TIME 1355
POLARIZATION VV BISTATIC 0°
OPERATOR JS O.C. Dist OC - 1
Super Cub
20° Roll .150 Pitch
ATTENUATION REFERENCE LEVEL = 19.8 dBsm
15dBsm
20dBsm
25dBsm
10dBsm
10dBsm
20dBsm
30dBsm
180°
210°
240°
270°
300°
330°
0°
30°
60°
90°
120°
150°
180°

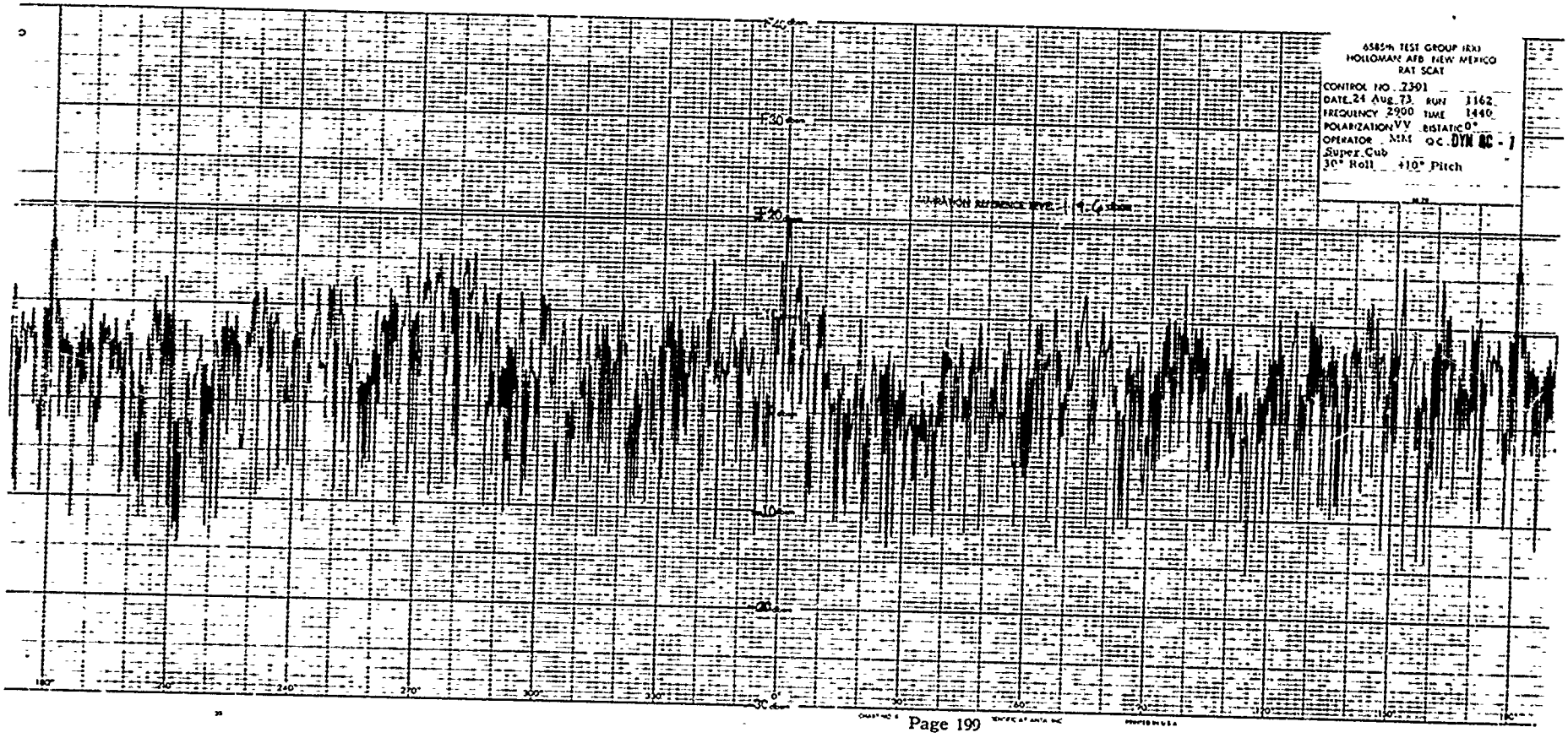

40
30
20
10
0
30
CALIBRATION REFERENCE LEVEL
CONTROL NO 73-01
DATE 24 AUG 73
FREQUENCY 2900
POLARIZATION VV BISTATIC
OPERATOR
DYN RC - 1

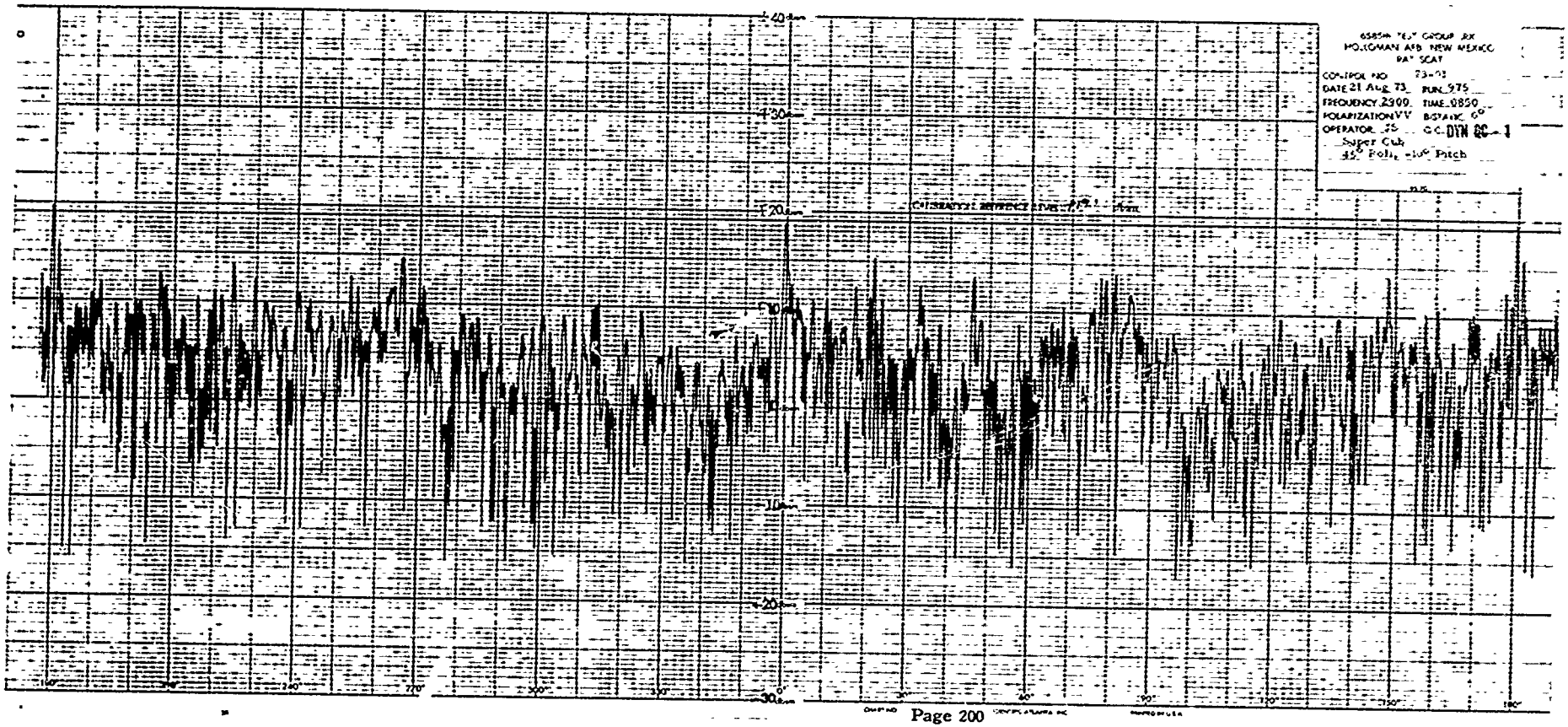

6585th TEST GROUP (RH)
HOLLOMAN A.F.B. NEW MEXICO
RAT SCAT
CONTROL NO 73-01
DATE 21 Aug 73 RUN 27b
FREQUENCY 2200 TIME 0950
POLARIZATION V V BISTATIC 0°
OPERATOR DS GC DYN QC - 1
Super Cub
30° Roll, -10° Pitch
+40
+30
+20
+10
0
-10
-20
-30
0°
30°
60°
90
120°
150°
180°

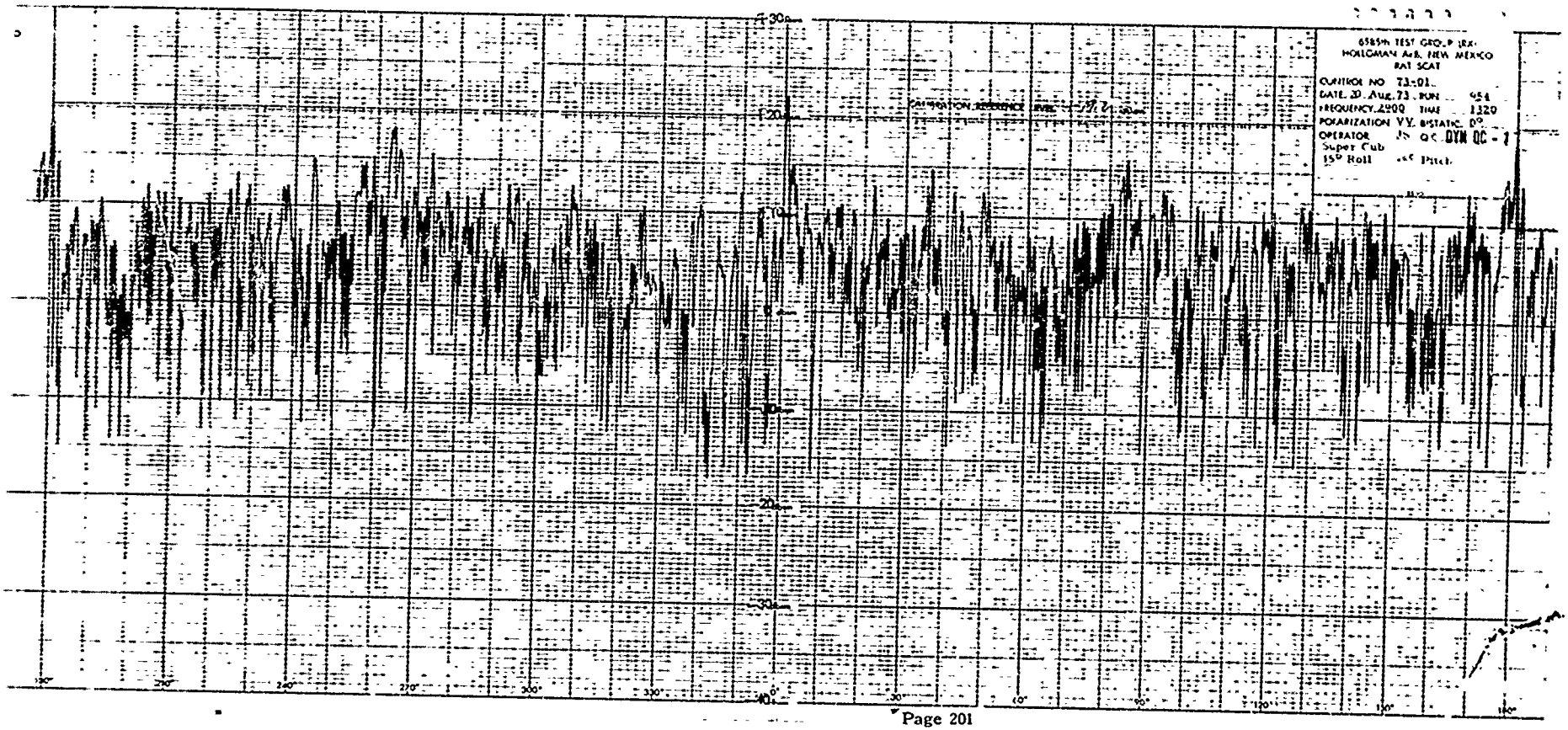

6585m TEST GROUP RTQ
HOLLOMAN AFB NEW MEXICO
BAT SCAT
CONTROL NO. 73-01
DATE 23 Aug 73 RUN 1078
FREQUENCY 2900 TIME 1060
POLARIZATION VV BISTATIC 0°
OPERATOR JS QC
Super Cub
10° Roll -5° Pitch
+40
+30
+20
+10
0
-10
-20

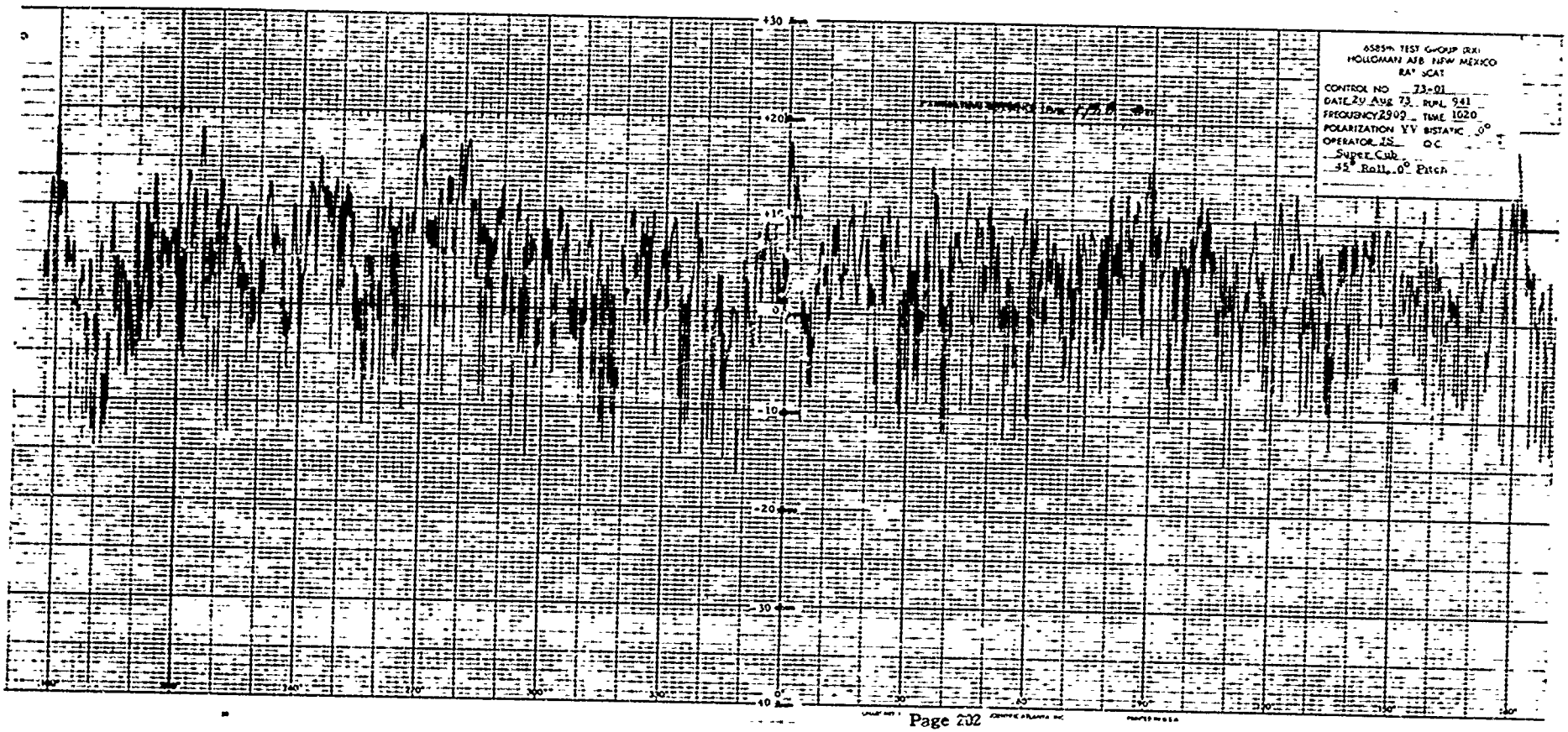

6585th TEST GROUP (RX)
HOLLOMAN AFB NEW MEXICO
RAT SCAT
CONTROL NO 73-01
DATE 20 Aug 73 RUN 9th
FREQUENCY 2900 TIME 0915
POLARIZATION VV BISTAT 0°
OPERATOR JD
Super Cub
30° Roll, 0° Pitch
+30 dbsm
+20
+10
0
-10
-20
-30
-40
180°
270°
300°
330°
0°
30°
60°
90°
120°
150°
180°

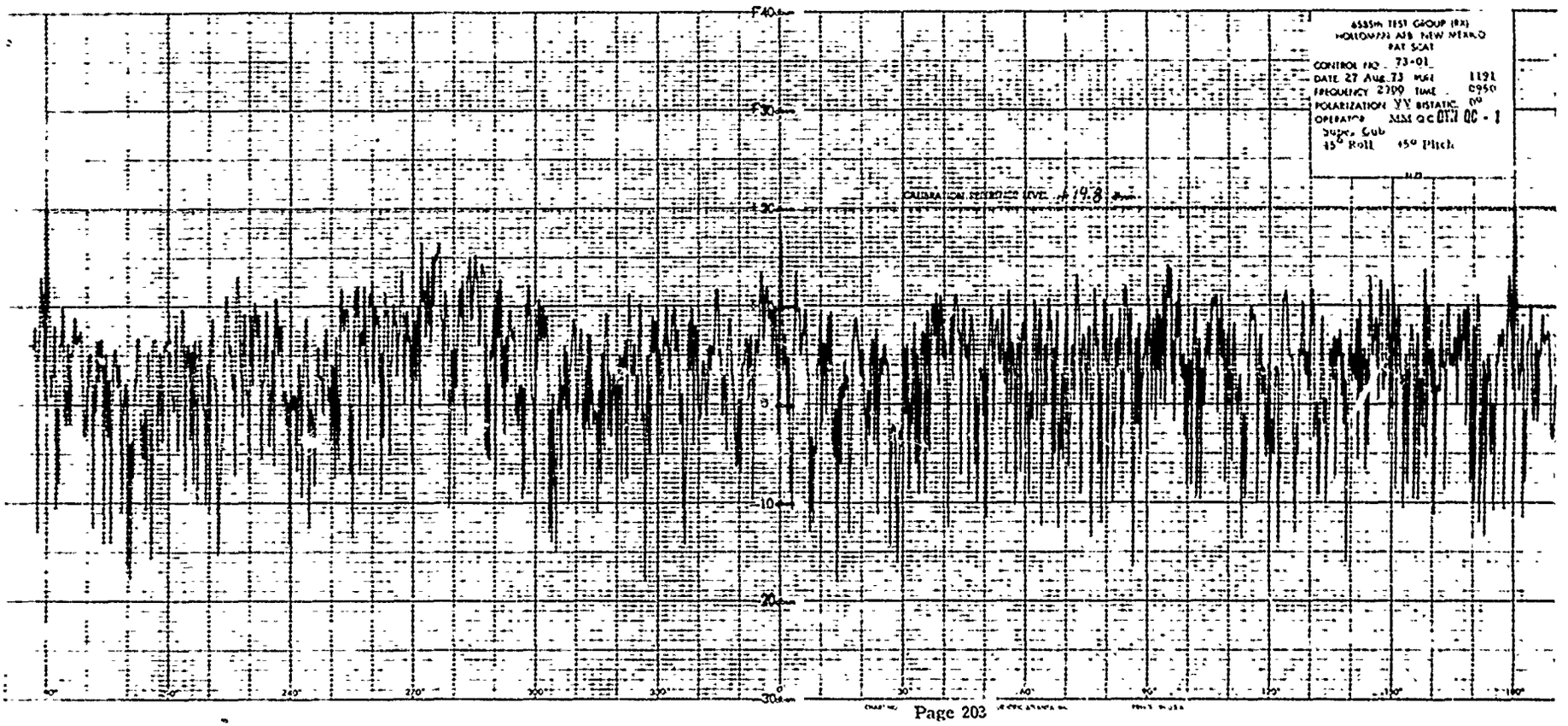

6585th TEST GROUP (RX)
HOLLOMAN AFB NEW MEXICO
RAT SCAT
CONTROL NO 73-01
DATE 23 Aug 73 RUN 1079
FREQUENCY 2900 TIME 1125
POLARIZATION VV BISTATIC 0°
OPERATOR JS
Super Cub
30° Roll ±5° Patch
CALIBRATION
+30
+20
+10
0
-10
-20
-30
0°
30
60
90
120
150
180
210
240
270
300
330

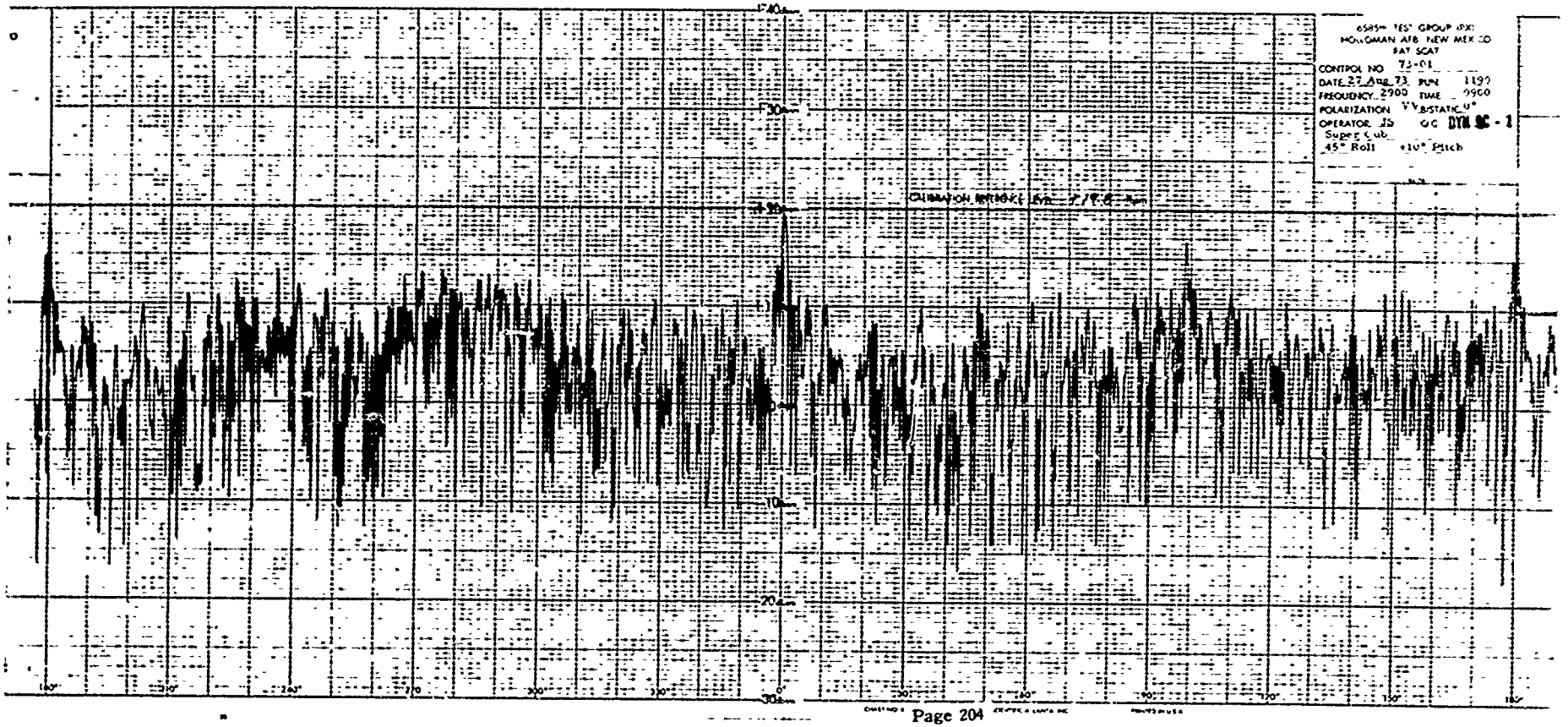

6585th TEST GROUP (RX)
HOLLOMAN AFB NEW MEXICO
RAT SCAT
CONTROL NO. 2301
DATE 24 Aug 73 RUN 1162
FREQUENCY 2900 TIME 1440
POLARIZATION VV BISTATIC 0°
OPERATOR NM QC DYN AC - 1
Super Cub
30° Roll +10° Pitch
+30
+20
+10
0
-10
-20
-30
180°
210°
240°
270°
300°
330°
0°
30°
60°
90°
120°
150°
180°

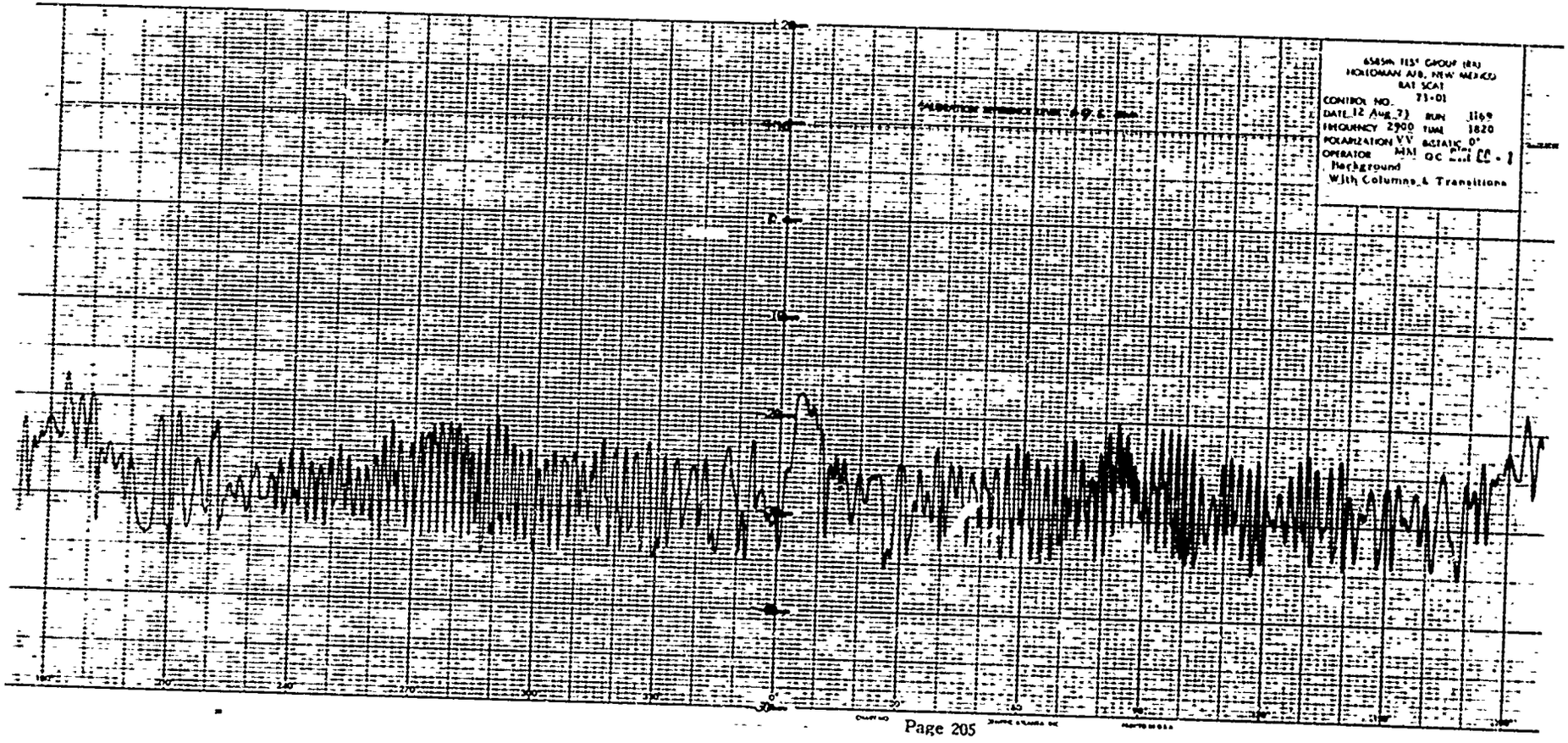

6585th TEST GROUP (R)
HOLLOMAN AFB NEW MEXICO
RAT SCAT
DATE 21 Aug 73 RUN 975
FREQUENCY 2900 TIME 0850
POLARIZATION VV BISTATIC 0°
OPERATOR JS G.C. DYN RC-1
Super Cub
55° Roll, -10° Pitch
+40
+30
+20
+10
-10
-20
-30

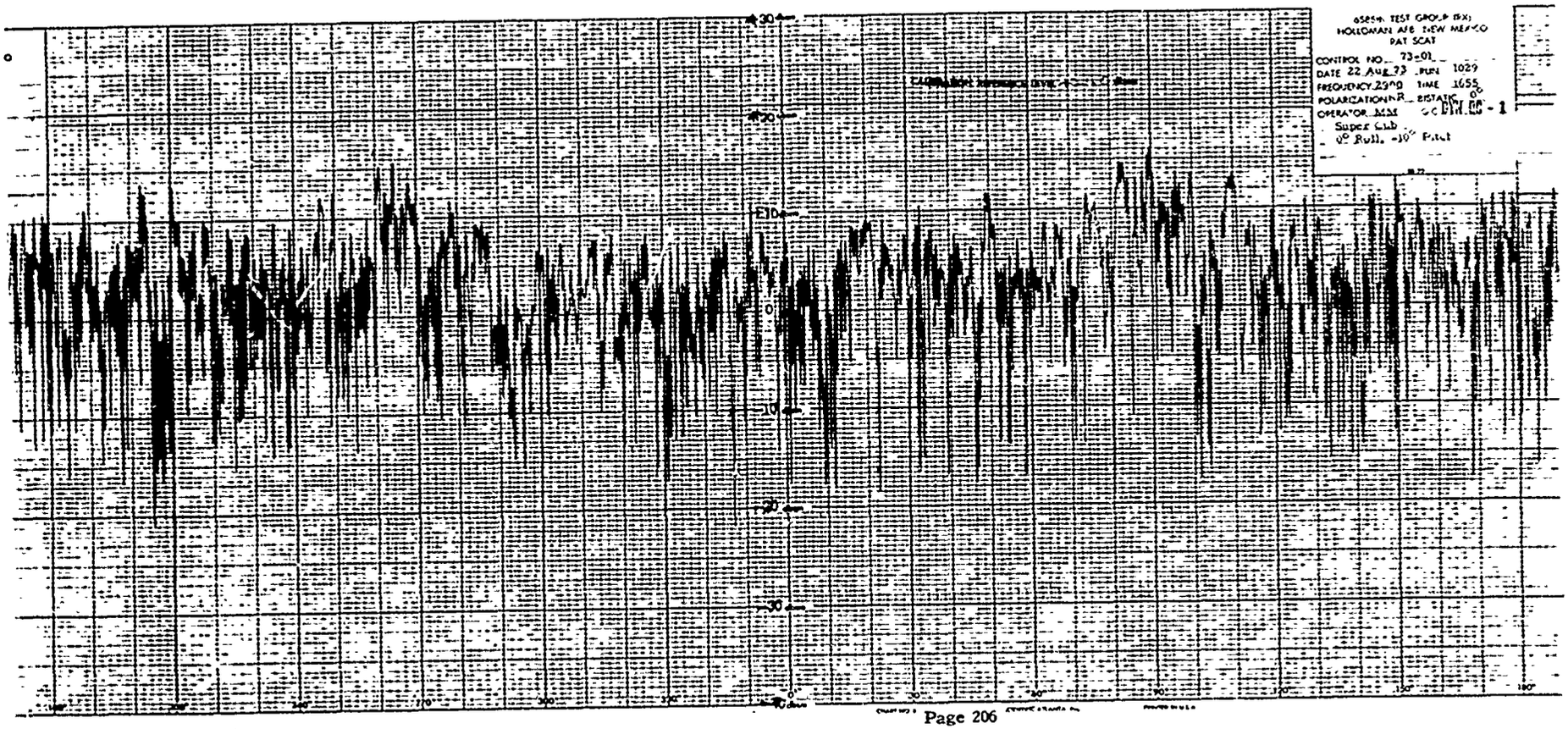

6585th TEST GROUP (RX)
HOLLOMAN A.F.B. NEW MEXICO
RAT SCAT
CONTROL NO 73-01
DATE 30 Aug 73 RUN 954
FREQUENCY 2900 TIME 1320
POLARIZATION V-V BISTATIC 0°
OPERATOR JS QC DYN QC - 1
Super Cub
15° Roll
Pitch
CALIBRATION REFERENCE LEVEL
+30
+20
+10
0
-10
-20
-30
180°
210°
240°
270°
300°
330°
0°
30°
60°
90°
120°
150°
180°

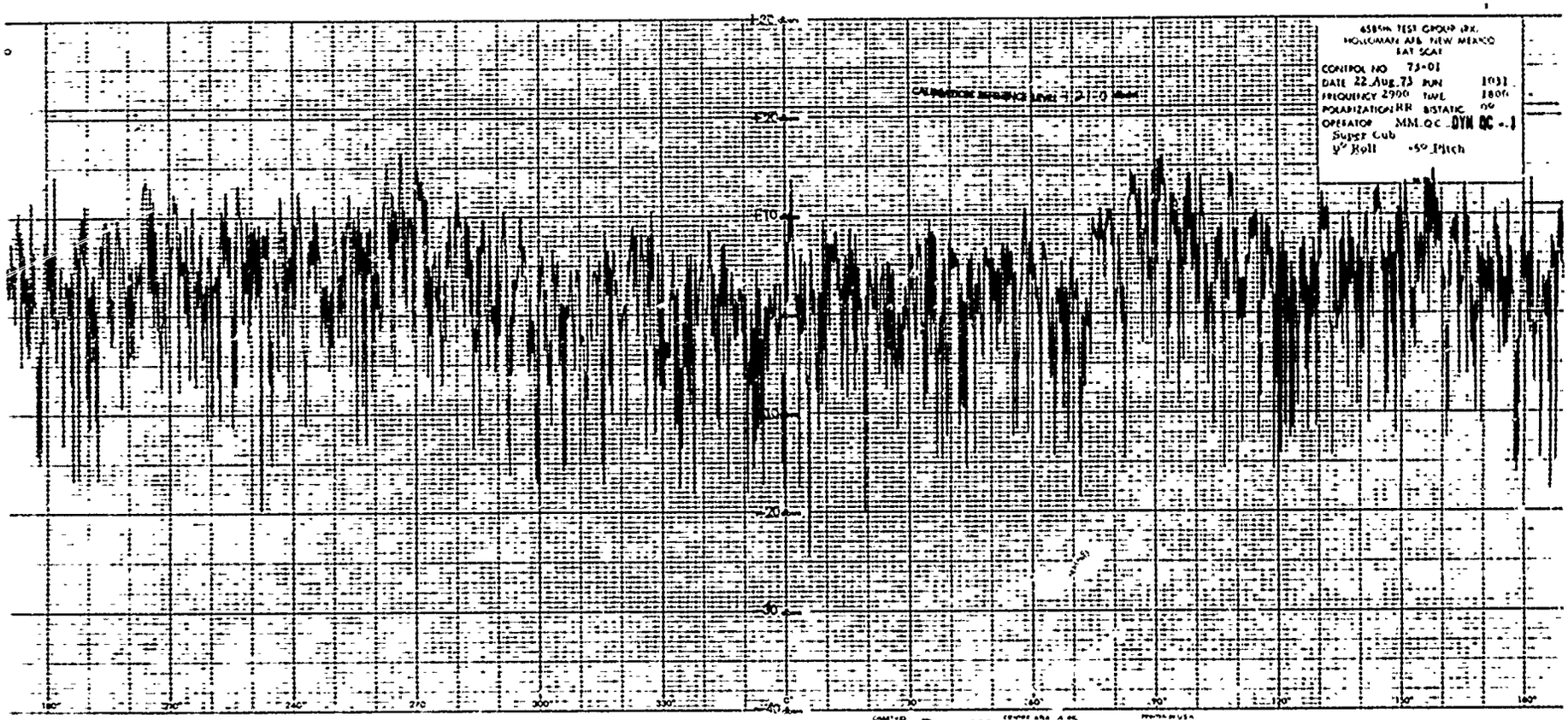

6585th TEST GROUP (RX)
HOLLOMAN AFB NEW MEXICO
RAE SCAT
CONTROL NO 73-01
DATE 29 Aug 73 RUN 941
FREQUENCY 2909 TIME 1020
POLARIZATION VV BISTATIC 0°
OPERATOR JS O.C.
Super Cub
45° Roll, 0° Pitch
+30
+20
+10
0
-10
-20
-30
-40
0°
30°
60°
90°
120°
150°
180°
210°
240°
270°
300°
330°
360°

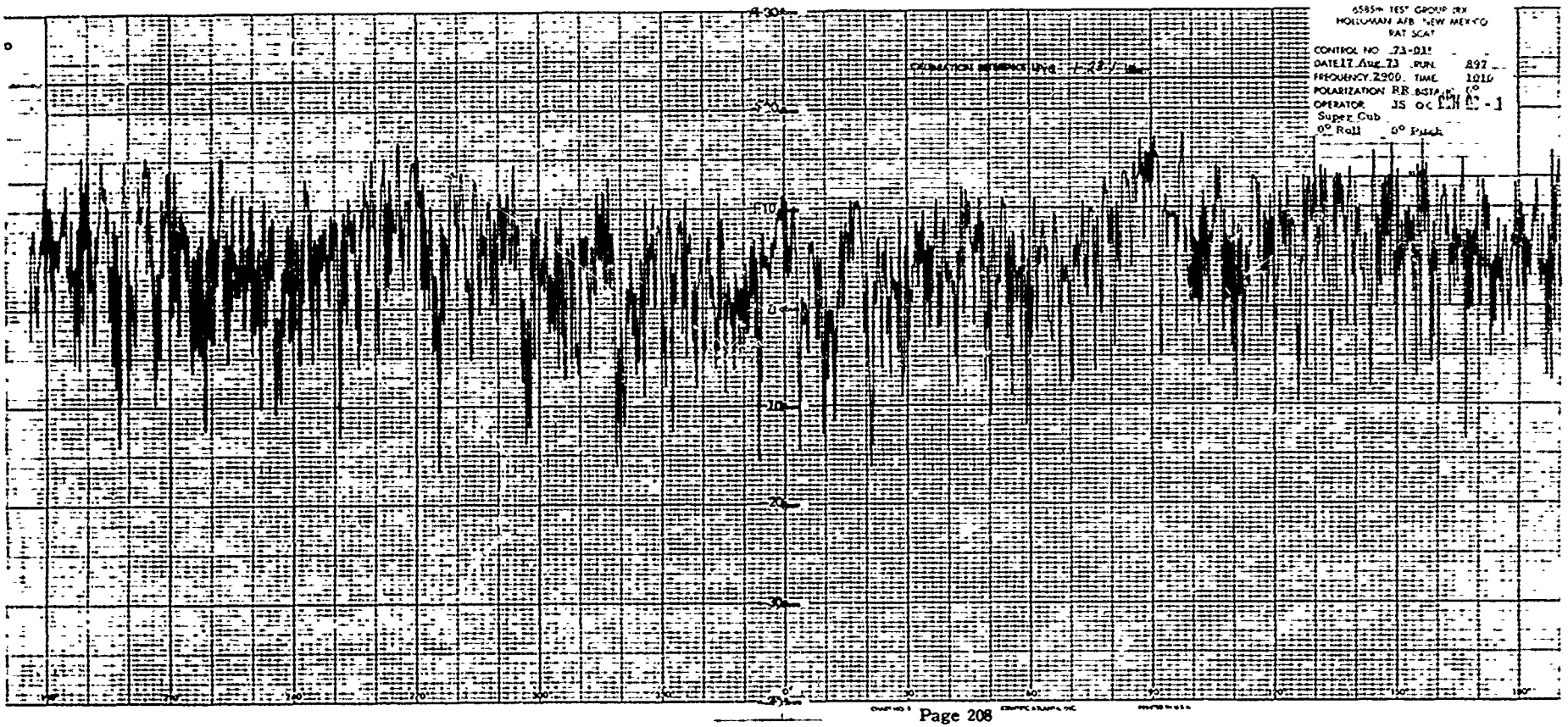

6585th TEST GROUP (RX)
HOLLOMAN AFB NEW MEXICO
PAT SCAT
CONTROL NO. 73-01
DATE 27 Aug 73
FREQUENCY 2700
POLARIZATION VV
OPERATOR
Super Gob
45° Roll
45° Pitch
-40
-30
-20
-10
0
30
60
90
120
150
180
210
240
270
300
330

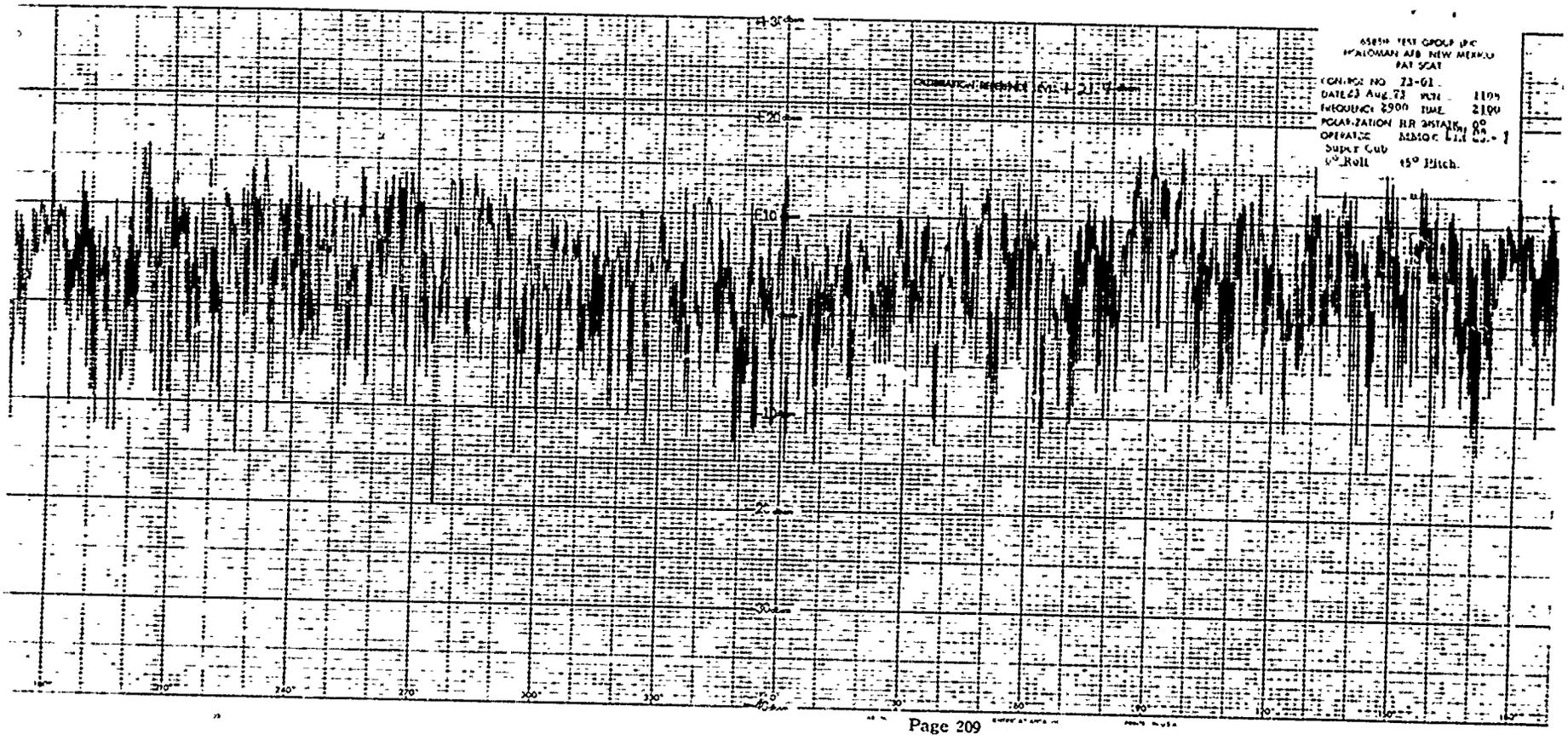

6585th TEST GROUP (RX)
HOLLOMAN AFB, NEW MEXICO
RAT SCAT
CONTROL NO 73-01
DATE 27 Aug 73 RUN 1197
FREQUENCY 2900 TIME 0900
POLARIZATION VV BISTATIC 0°
OPERATOR JS GC DYN RC - 1
Super Cub
45° Roll +10° Pitch
40
30
20
10
0
-30
180°
270°
360°
90°
180°

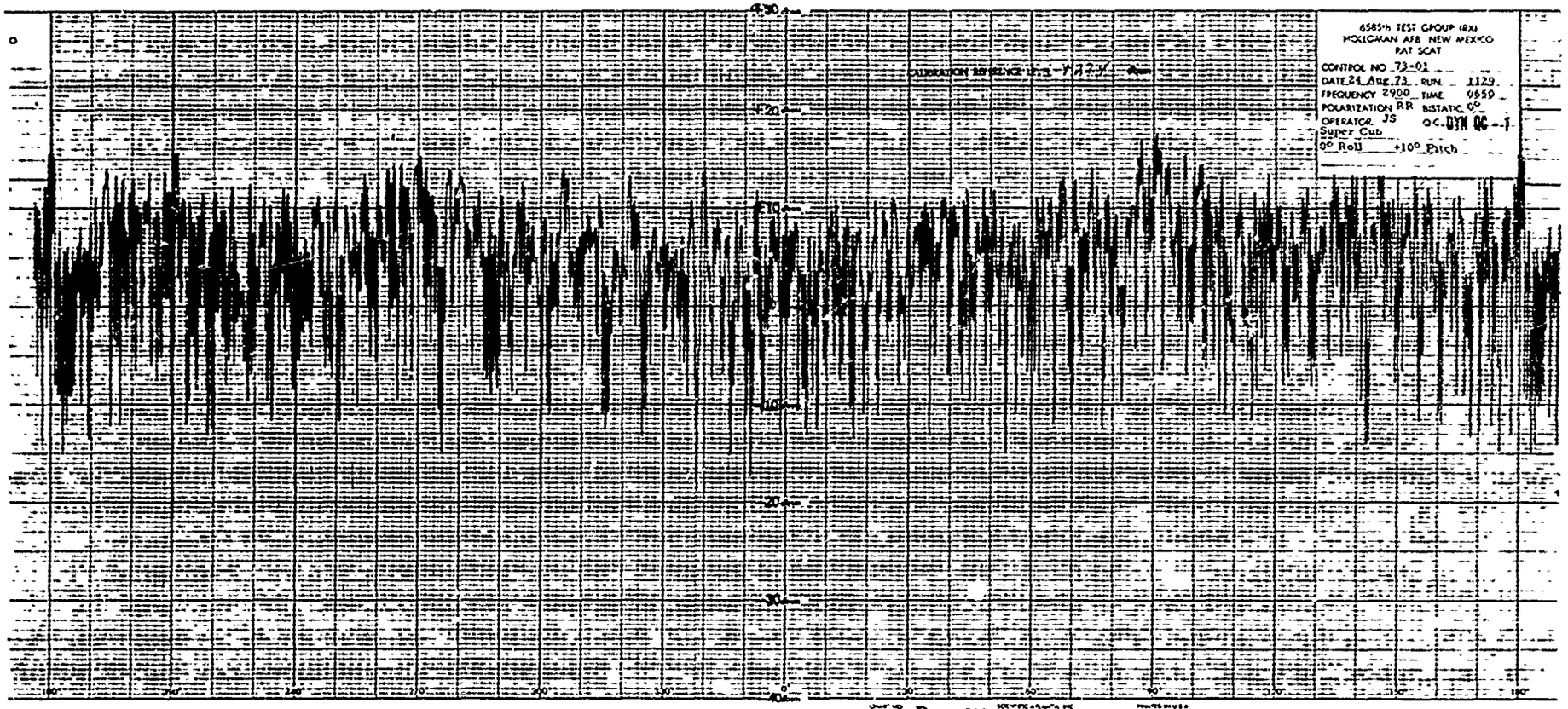

6585th TEST GROUP (RA)
HOLLOMAN AFB, NEW MEXICO
RAT SCAT
CONTROL NO. 73-01
DATE 12 Aug 73 RUN 1169
FREQUENCY 2900 TIME 1820
POLARIZATION VV AZIMUTH 0°
OPERATOR MM QC
Background
With Columns & Transitions

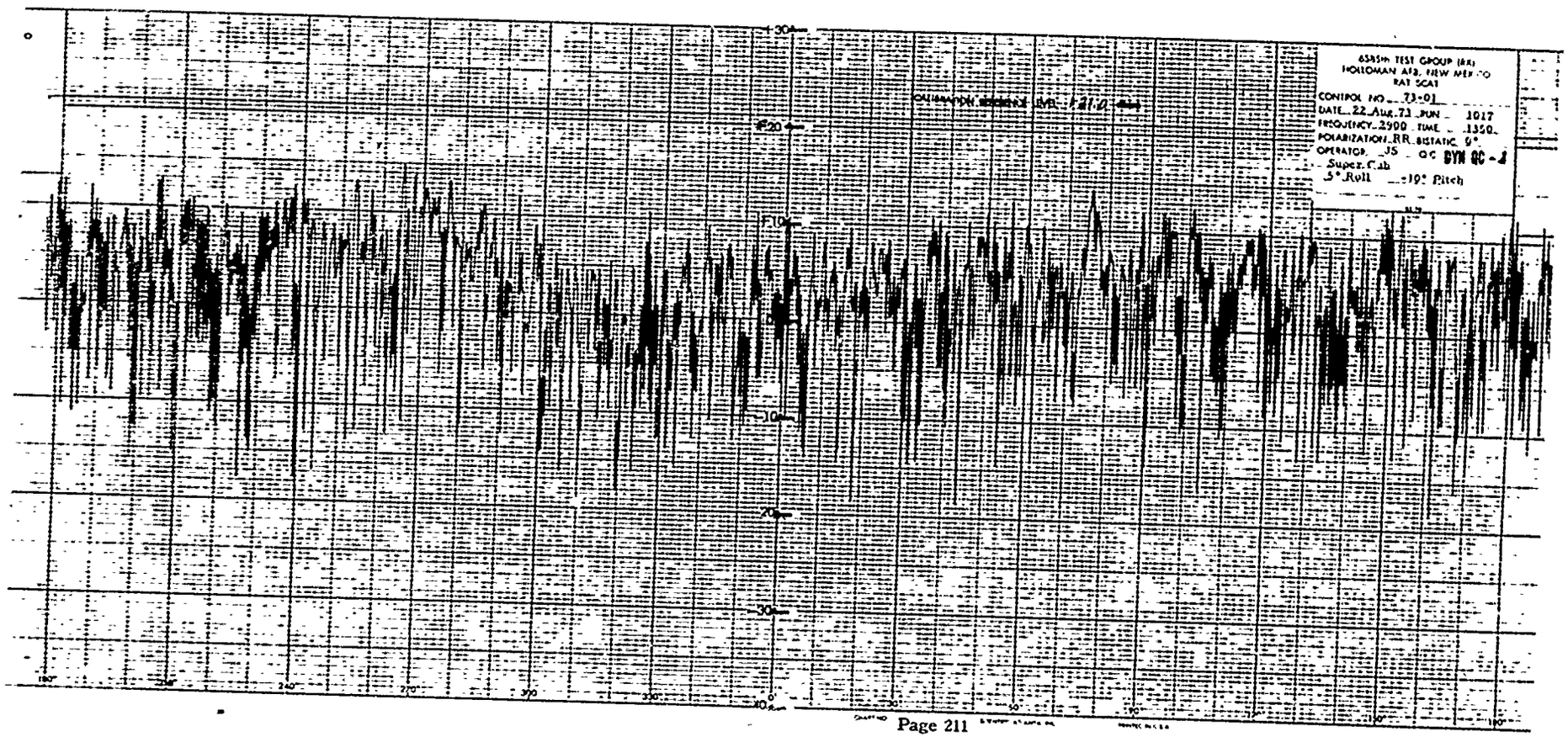

6585th TEST GROUP (RX)
HOLLOMAN AFB NEW MEXICO
PAT SCAT
CONTROL NO. 73-01
DATE 22 Aug 73 RUN 1029
FREQUENCY 2900 TIME 1655
POLARIZATION H R BISTATIC 0°
OPERATOR [illegible] CC DWG NO - 1
Super Club
0° Roll, -10° Pitch
+30
+20
+10
0
-10
-20
-30

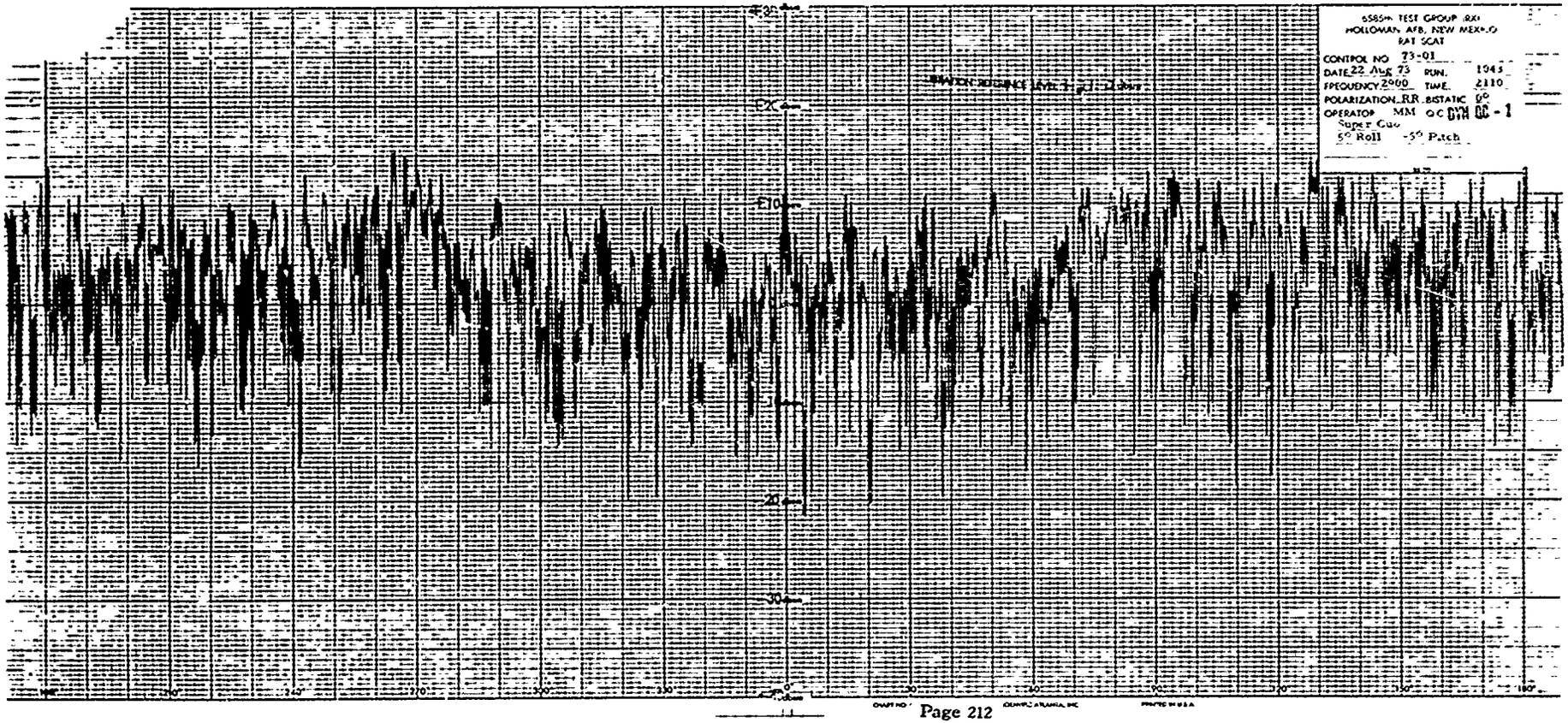

6585th TEST GROUP (RX)
HOLLOMAN AFB, NEW MEXICO
RAT SCAT
CONTROL NO 73-01
DATE 22 Aug 73 RUN 1031
FREQUENCY 2900 TIME 1806
POLARIZATION HH BISTATIC no
OPERATOR MM, QC DYN QC
Super Cub
0° Roll +5° Pitch
+30
+20
+10
0
-10
-20
-30
180°
210°
240°
270
300°
330°
0°
30
60°
90°
120°
150°
180°

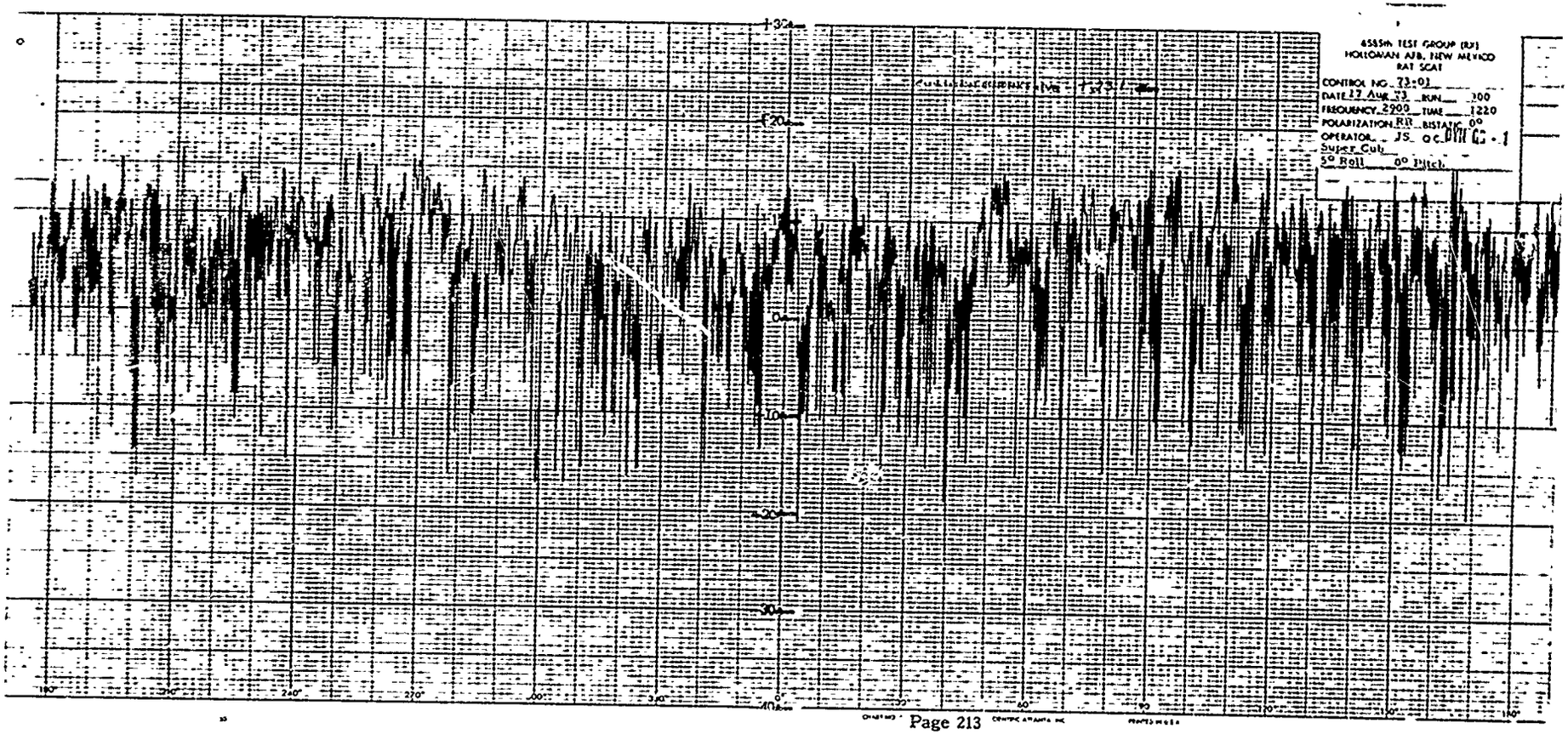

6585th TEST GROUP (RX
HOLLOMAN AFB NEW MEXICO
RAT SCAT
CONTROL NO 73-01
DATE 17 Aug 73 RUN 897
FREQUENCY 2900 TIME 1016
POLARIZATION RR BSTA
OPERATOR JS OC
Super Cub
0° Roll 0° Pitch
+30
+20
+10
0
-10
-20
-30
-25 dbsm

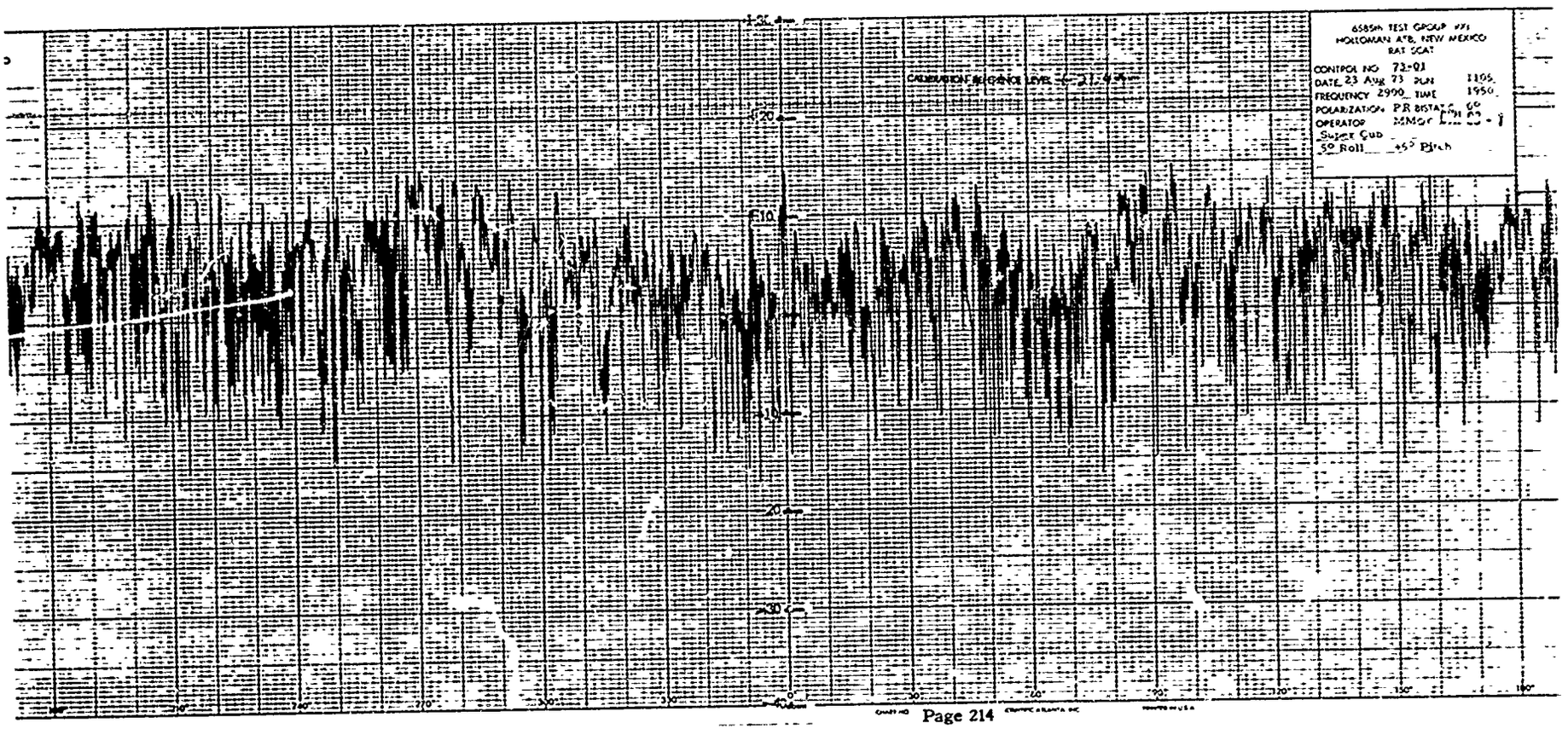

6585th TEST GROUP (PC
HOLLOMAN AFB, NEW MEXICO
PAT SCAT
CONTROL NO 73-01
DATE 23 Aug 73 FROM 1109
FREQUENCY 2900 TIME 2100
POLARIZATION RR 2STATE 00
OPERATOR MAJOR [illegible] - 1
Super Cub
0° Roll 45° Pitch.
+30
+20
+10
0
-10
-20
-30
210°
240°
270°
300°
330°
0°
30°
60°
90°

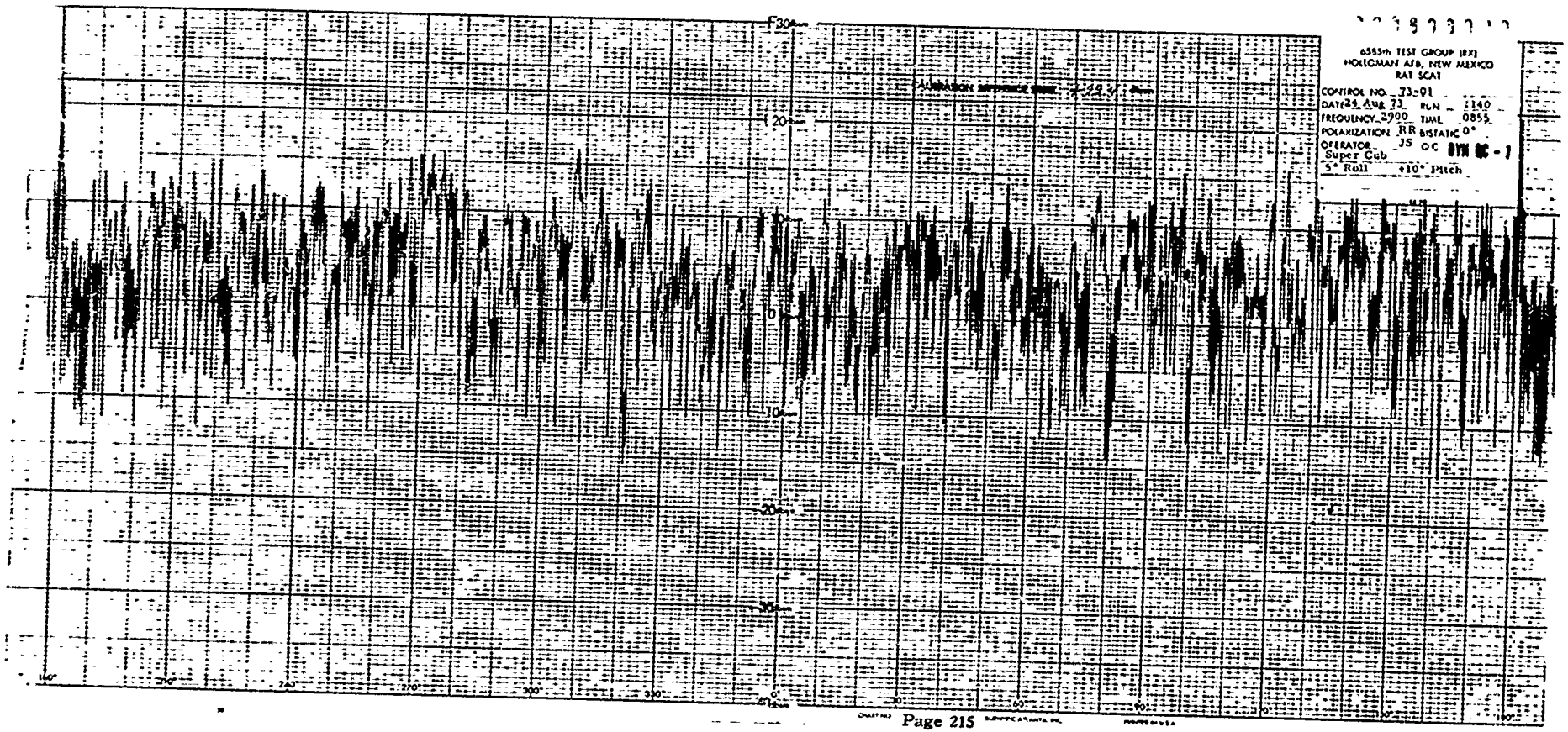

6585th TEST GROUP (RX)
HOLLOMAN AFB NEW MEXICO
PAT SCAT
CONTROL NO 73-01
DATE 24 Aug 73 RUN 1129
FREQUENCY 2900 TIME 0659
POLARIZATION RR BISTATIC 0°
OPERATOR JS QC DYN QC-1
Super Cub
0° Roll +10° Pitch
+30
+20
+10
-10
-20
-30
-40
0°

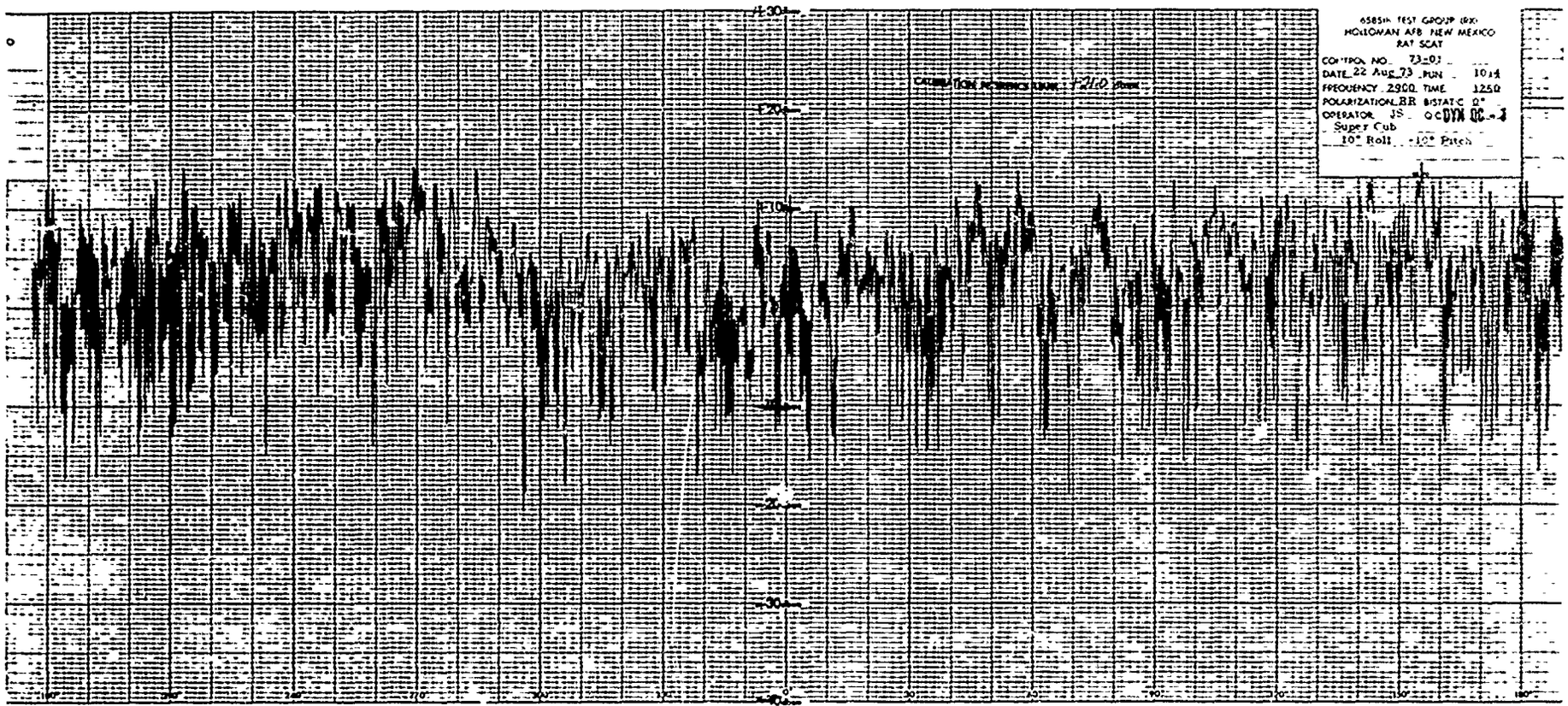

6585th TEST GROUP (RX)
HOLLOMAN AFB, NEW MEXICO
RAT SCAT
CONTROL NO 73-01
DATE 22 Aug 73 RUN 1017
FREQUENCY 2900 TIME 1350
POLARIZATION RR BISTATIC 0°
OPERATOR JS QC DYN QC-1
Super Cub
5° Roll ±10° Pitch
+30
+20
+10
0
-10
-20
-30
180°
240°
270°
300°
330°
0°
30°
50°
90°
180°

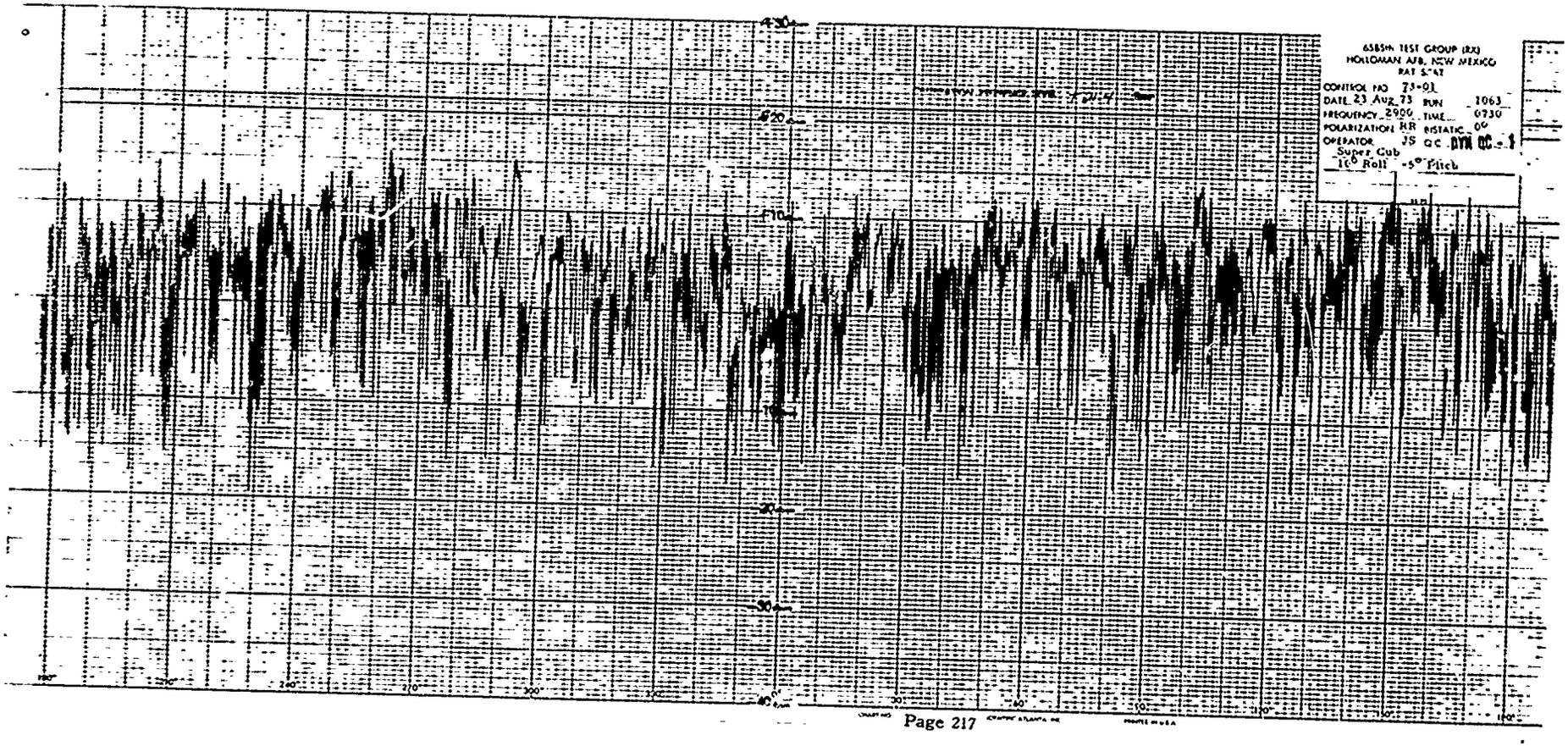

6585th TEST GROUP (RX)
HOLLOMAN AFB, NEW MEXICO
RAT SCAT
CONTROL NO 73-01
DATE 22 Aug 73 RUN 1945
FREQUENCY 2900 TIME 2110
POLARIZATION RR BISTATIC 0°
OPERATOR MM QC DTH QC - 1
Super Cub
5° Roll -5° Pitch
-30
-20
-10
0
10
20
30
180°
150°
120°
90°
60°
30°
0°
30
60
90
120
150
180°

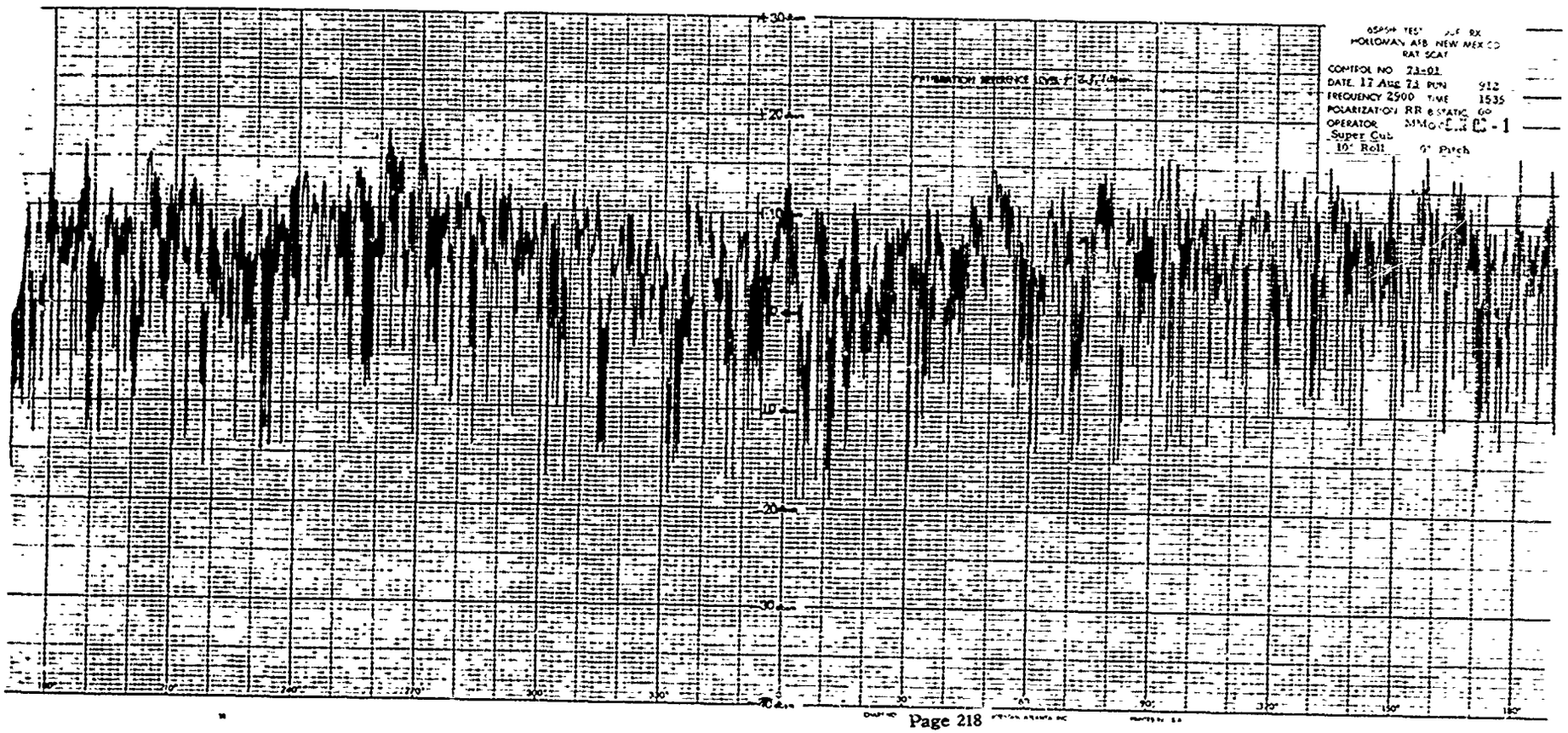

6555th TEST GROUP (RX)
HOLLOMAN AFB, NEW MEXICO
RAT SCAT
CONTROL NO. 73-01
DATE 17 Aug 73 RUN 300
FREQUENCY 2900 TIME 1220
POLARIZATION RR BISTATIC 0°
OPERATOR JS OC DWG G - 1
Super Cub
5° Roll 0° Pitch
+30
+20
+10
0
-10
-30
180°
240°
270°
300°
340°
0°
20°
60°
90°
120°
150°
180°

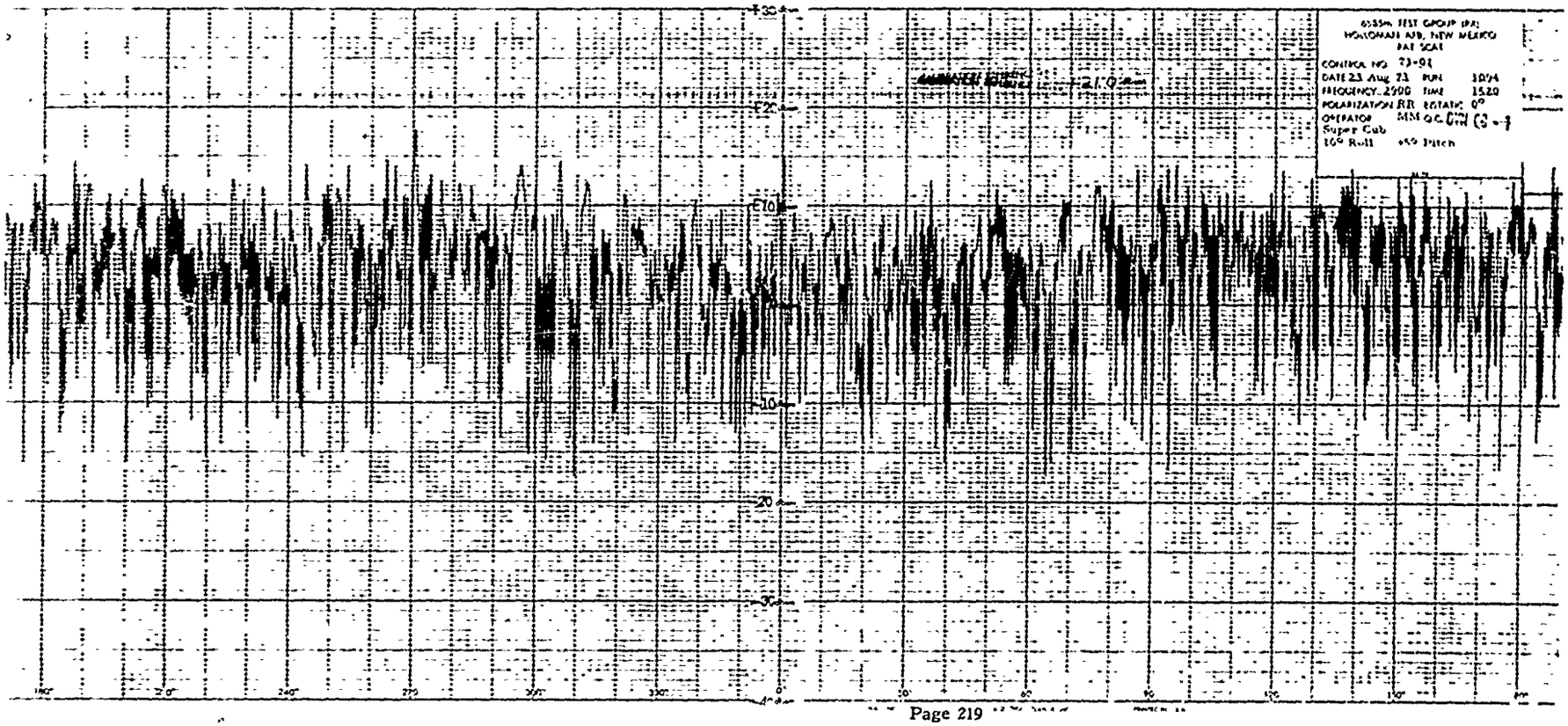

6585th TEST GROUP (PT)
HOLLOMAN AFB, NEW MEXICO
RAT SCAT
CONTROL NO 73-01
DATE 23 Aug 73 RUN 1105
FREQUENCY 2990 TIME 1950
POLARIZATION PR BISTATIC 60
OPERATOR MMGr [illegible]
Super Cub
5° Roll 45° Pitch
CALIBRATION REFERENCE LEVEL = -21.4 dB
-20
-10
0
10
20
30
40
0°
30°
60°
90°
120°
150°
180°
210°
240°
270°
300°
330°

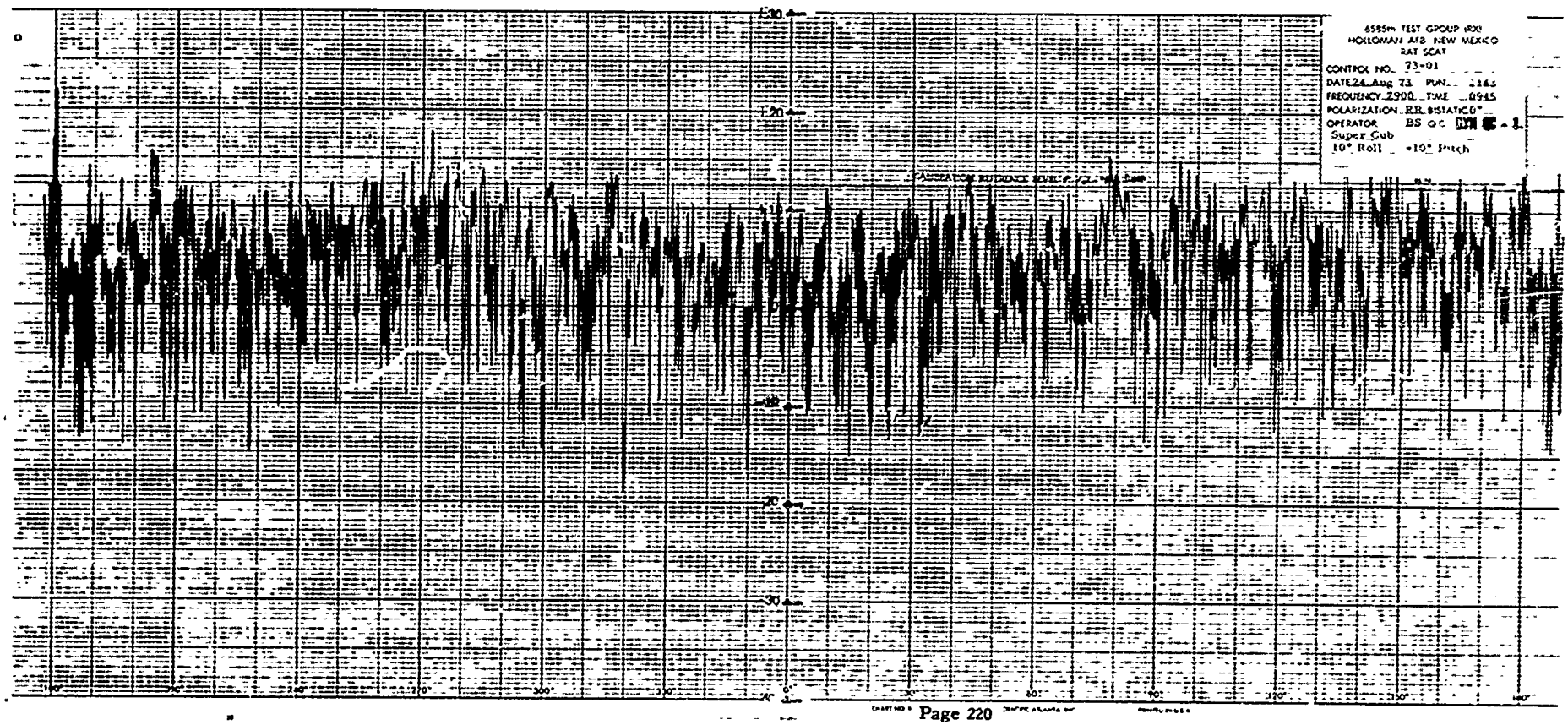

6585th TEST GROUP (RX)
HOLLOMAN AFB, NEW MEXICO
RAT SCAT
CONTROL NO. 73-01
DATE 29 Aug 73 RUN 1140
FREQUENCY 2900 TIME 0855
POLARIZATION RR BISTATIC 0°
OPERATOR JS QC BYN QC - 1
Super Cub
5° Roll +10° Pitch
-30
-20
-10
0
10
20
30
90°
180°

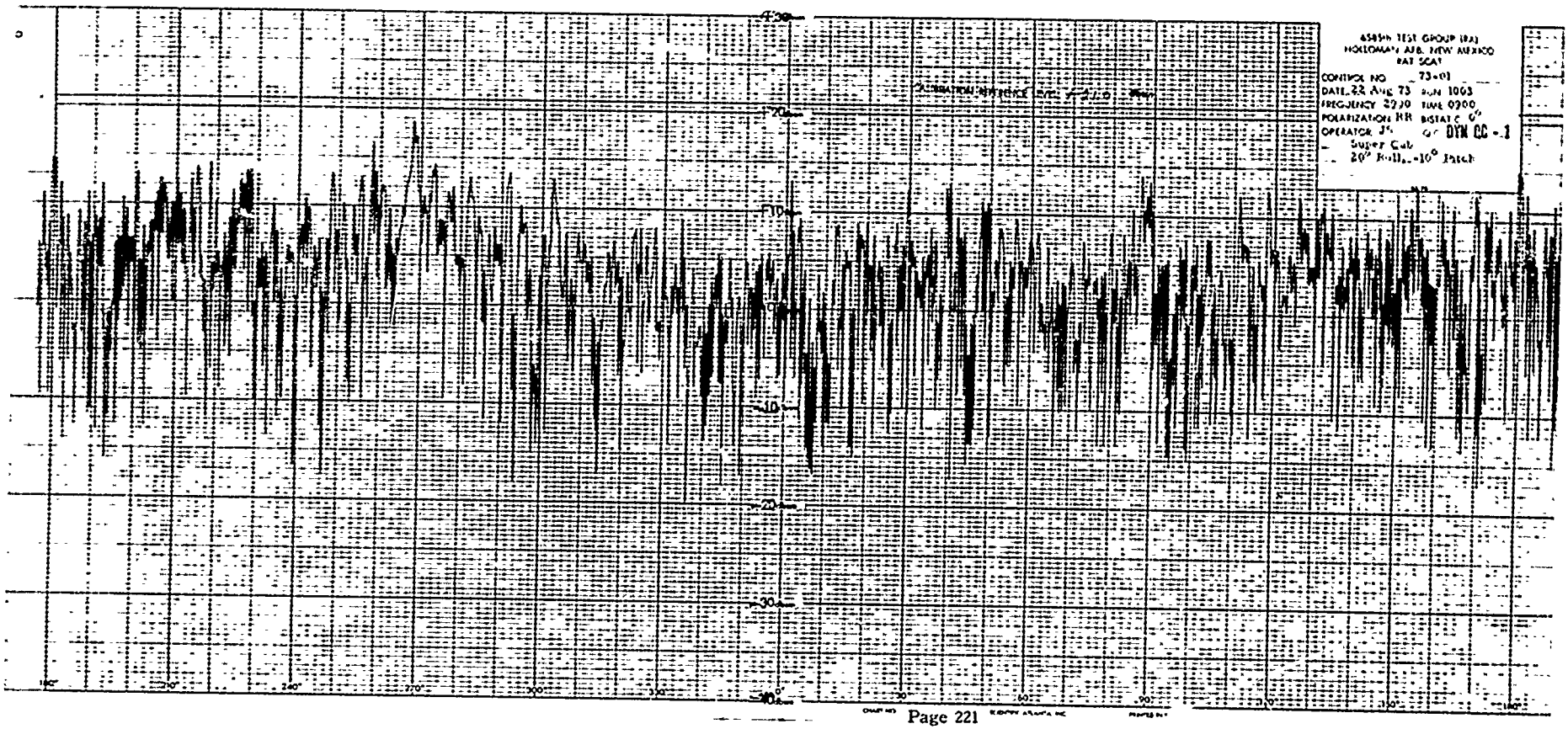

6585th TEST GROUP (RX)
HOLLOMAN AFB NEW MEXICO
RAT SCAT
CONTROL NO. 73-03
DATE 22 Aug 73 RUN 1014
FREQUENCY 2900 TIME 1250
POLARIZATION HR BISTATIC 0°
OPERATOR JS OC DYN QC-1
Super Cub
10° Roll, +10° Pitch
+30
+20
+10
-10
-20
-30
0°
90°
180°

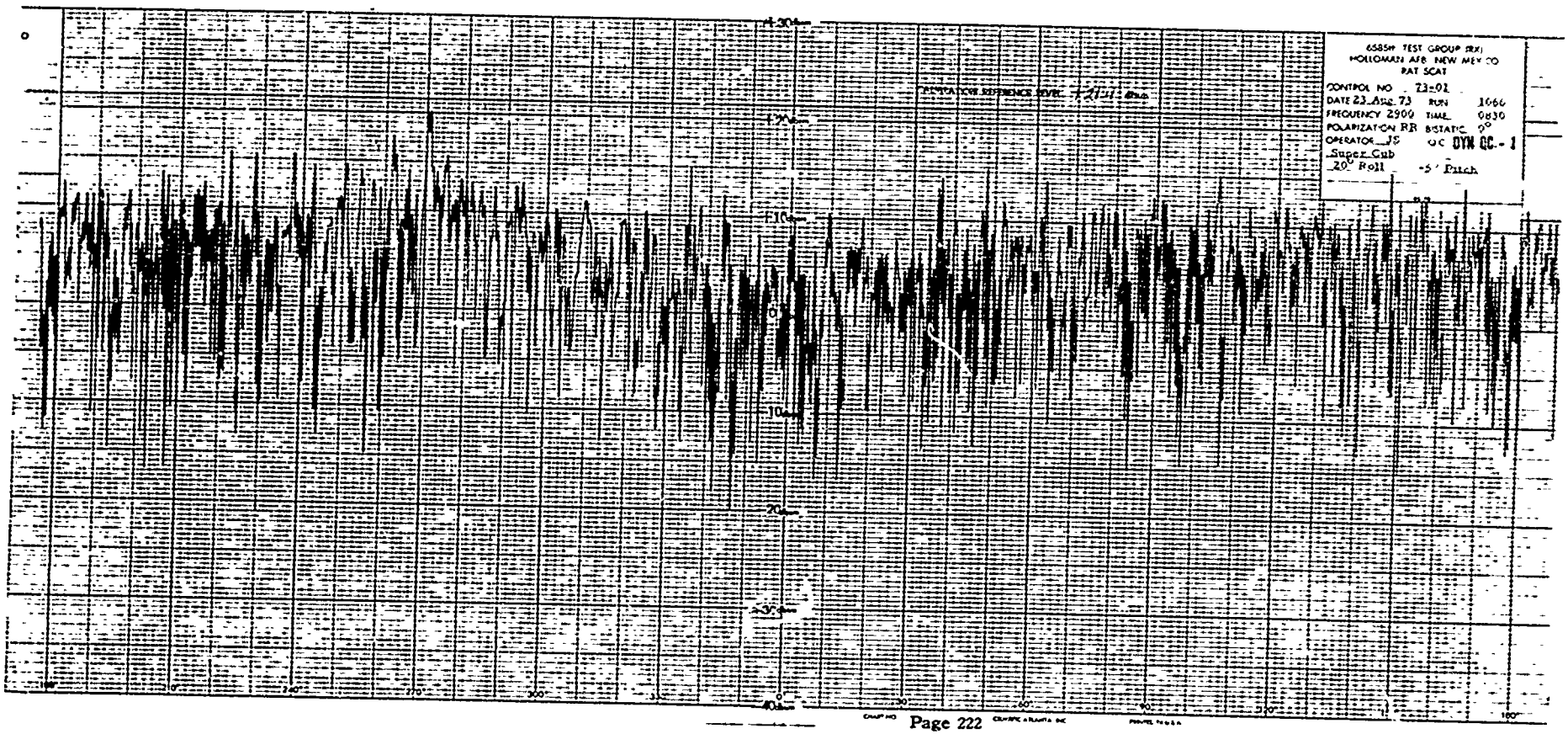

6585th TEST GROUP (RX)
HOLLOMAN AFB, NEW MEXICO
CONTROL PAD 73-93
DATE 23 AUG 73 RUN 1063
FREQUENCY 2900 TIME 0730
POLARIZATION RR RISTATIC 0°
OPERATOR JS QC
Super Cub
10° Roll -5° Pitch
-30
-40
-50
-60
90°
120°
150°
180°
210°
240°
270°
300°
330°
0°
30°
60°
90°
120°
150°
180°

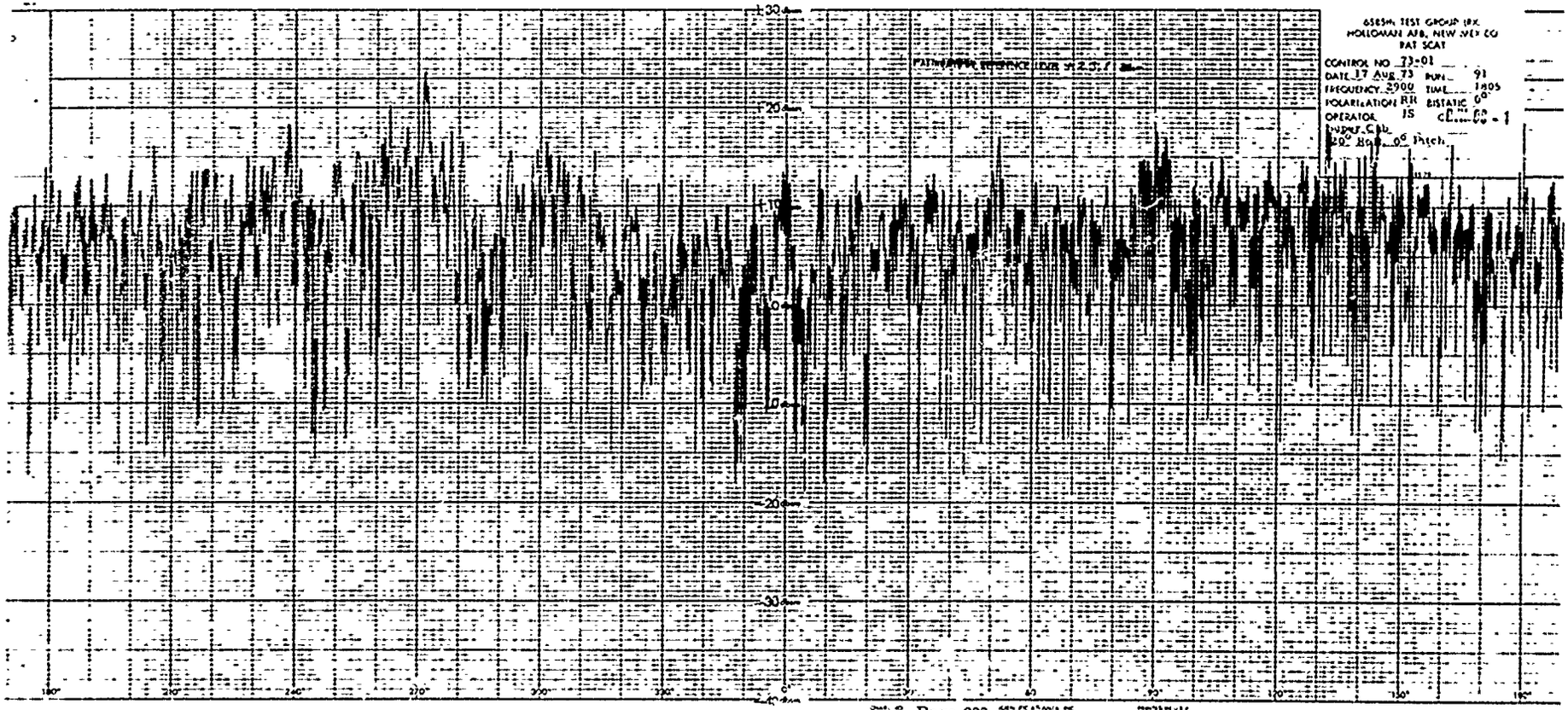

OSPSH TEST
HOLLOMAN AFB NEW MEXICO
RAT SCAT
CONTROL NO 73-02
DATE 17 Aug 73 RUN 912
FREQUENCY 2900 TIME 1535
POLARIZATION RR & STATIC 60
OPERATOR
Super Cub
10° Roll
0° Pitch
C2 - 1
+30
+20
+10
0
-10
-20
-30
-40
180°
210°
240°
270°
300°
330°
0°
30°
60°
90°
120°
150°
180°

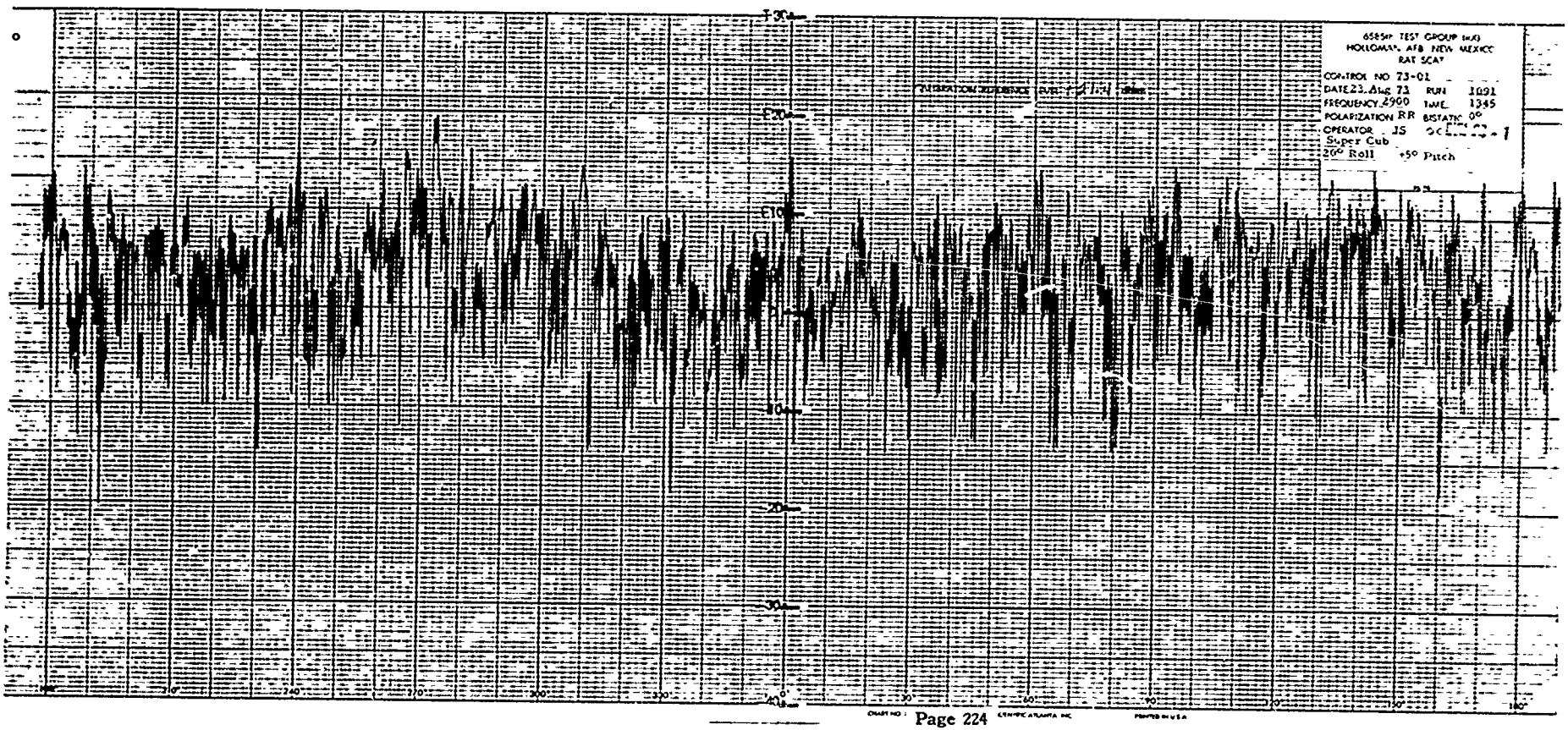

6555th TEST GROUP (PA)
HOLLOMAN AFB, NEW MEXICO
PAT SCAT
CONTROL NO. 73-91
DATE 23 Aug 73 RUN 1004
FREQUENCY 2900 TIME 1520
POLARIZATION RR ROTATE 0°
OPERATOR MM
Super Cub
10° Roll +50 Pitch
+30
+20
+10
0
-10
-20
-30
0°
30°
60°
90°
120°
150°
180°
210°
240°
270°
300°
330°

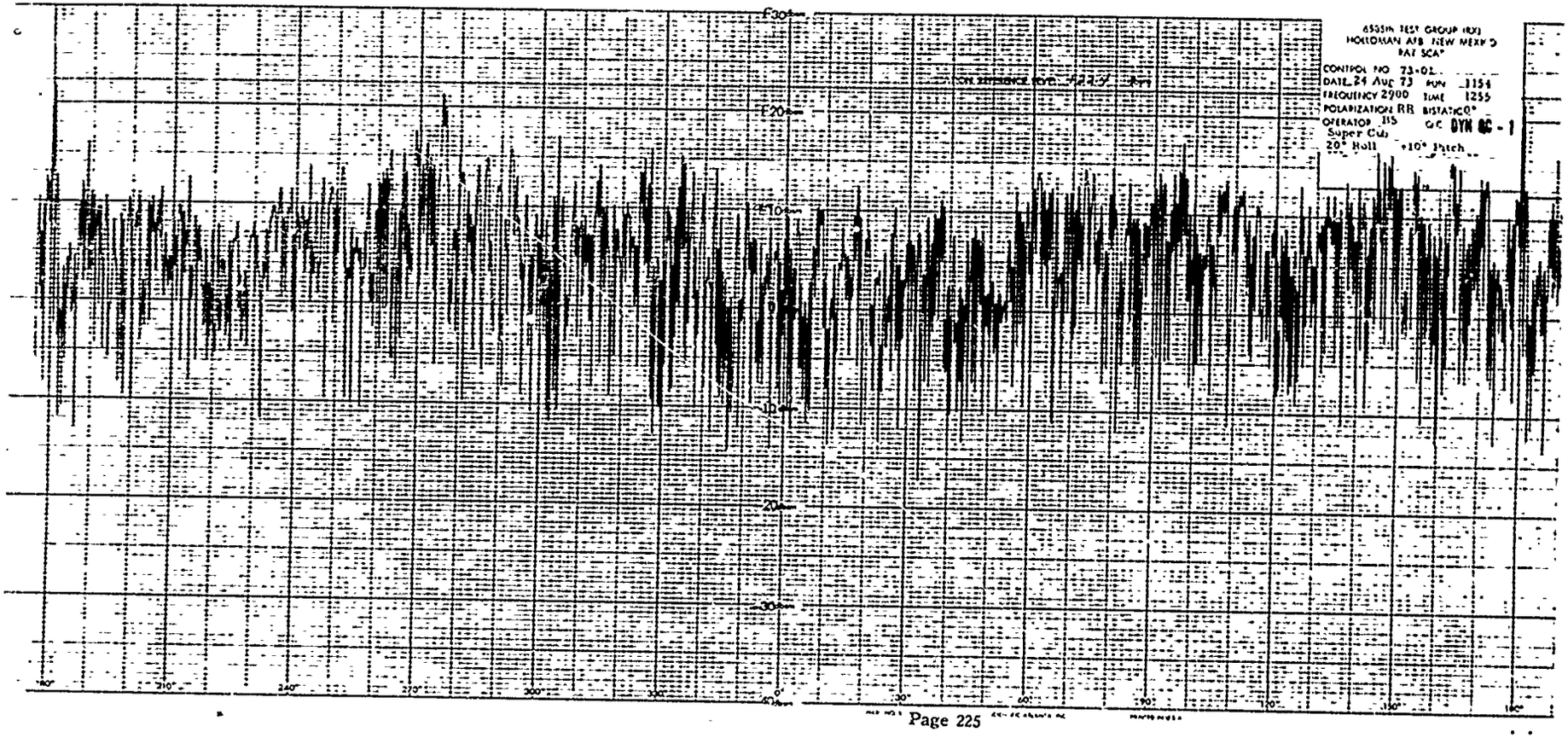

6585th TEST GROUP (RX)
HOLLOMAN AFB, NEW MEXICO
RAT SCAT
CONTROL NO. 73-01
DATE 24 Aug 73 RUN
FREQUENCY 2900 TIME 0945
POLARIZATION R.R. BISTATIC 0°
OPERATOR BS OC
Super Cub
10° Roll +10° Pitch
-30
-20
-10
0
10
20
30
0°
30°
60°
90°
120°
150°
180°

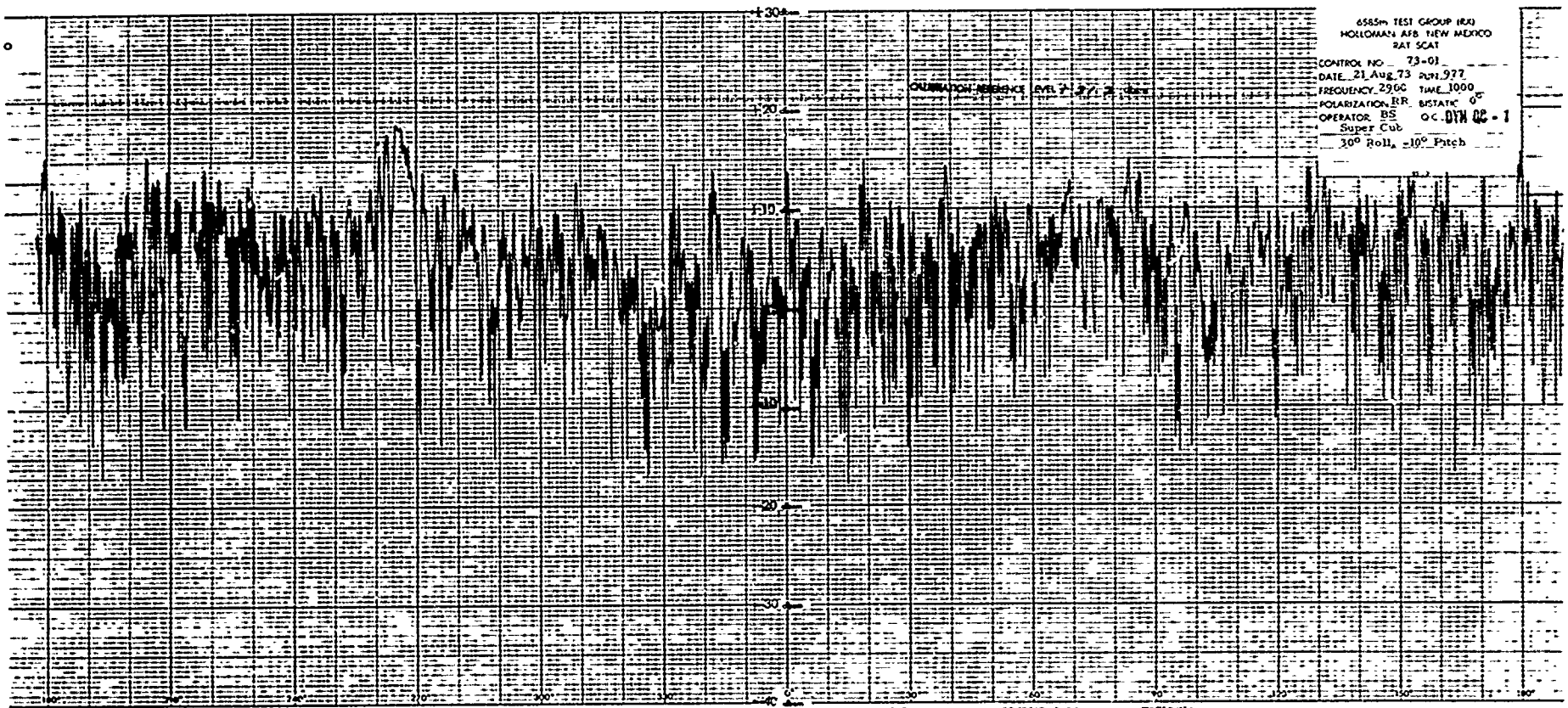

6585th TEST GROUP (RA)
HOLLOMAN AFB, NEW MEXICO
RAT SCAT
CONTROL NO 73-01
DATE 22 Aug 73 RUN 1003
FREQUENCY 2990 TIME 0900
POLARIZATION RR BISTAT C 0°
OPERATOR JP CAL DYN CC -1
Super Cub
20° Roll, -10° Pitch
-30
-20
-10
0
10
20
30
60
90
120
150
180
210
240
270
300
330

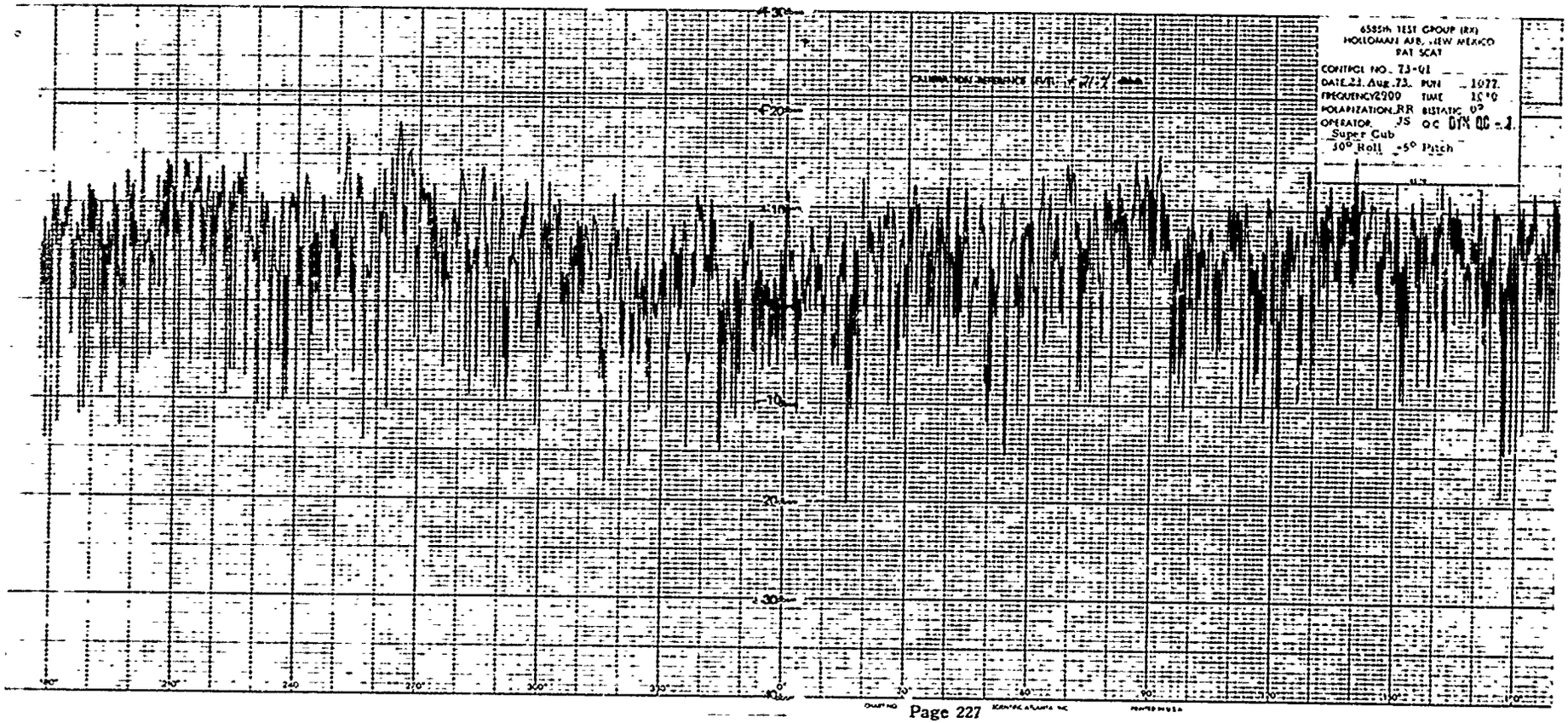

6585th TEST GROUP (RX)
HOLLOMAN AFB NEW MEXICO
RAT SCAT
CONTROL NO 73-01
DATE 23 Aug 73 RUN 1060
FREQUENCY 2900 TIME 0830
POLARIZATION RR BISTATIC 9°
OPERATOR JS QC DYN QC - 1
Super Cub
20° Roll -5° Pitch
+30
+20
+10
0
-10
-20
-30
0°
90°
180°
270°
360°

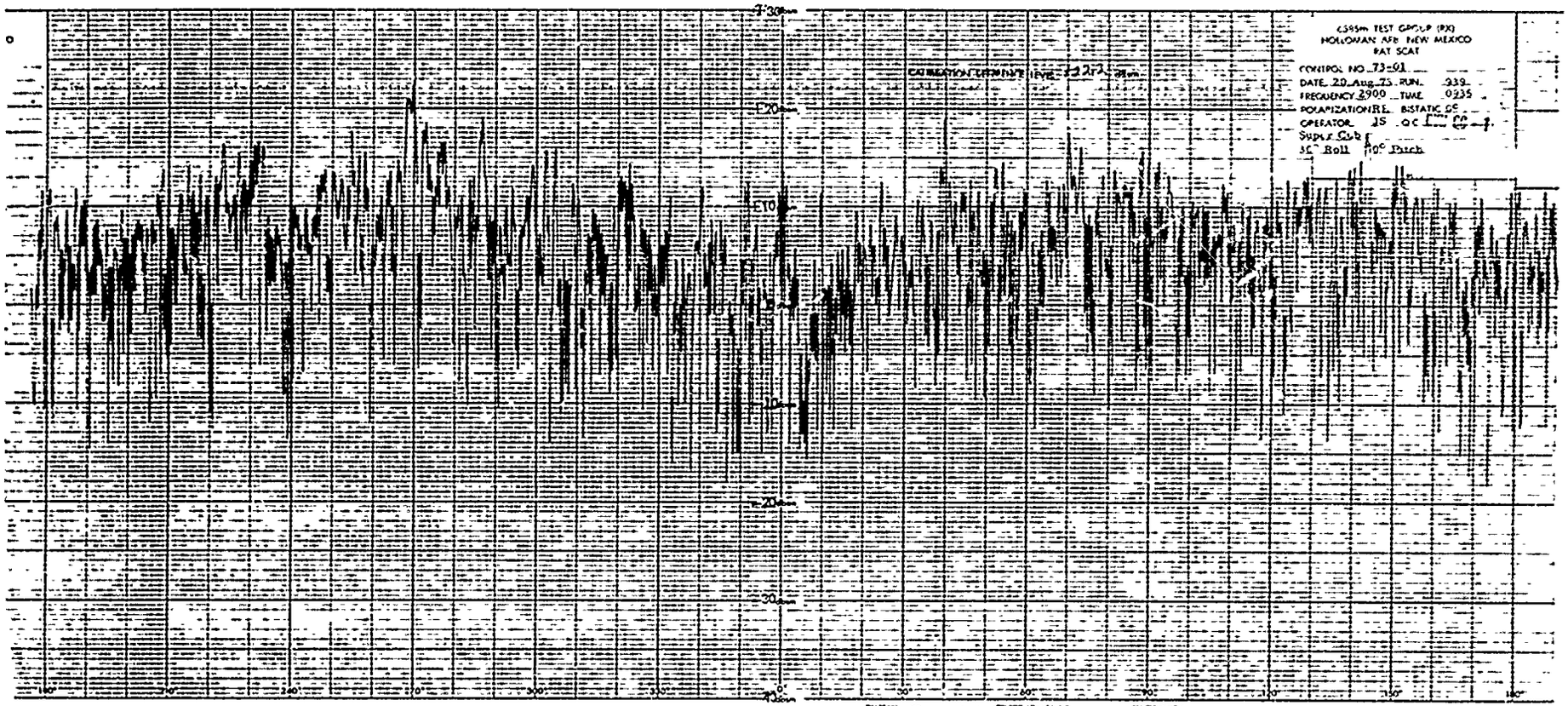

6585th TEST GROUP (RX
HOLLOMAN AFB, NEW MEX CO
RAT SCAT
CONTROL NO 73-01
DATE 17 Aug 73
RUN 91
FREQUENCY 2900
TIME 1805
POLARIZATION RR
BISTATIC 0°
OPERATOR JS
INPUT CAL
20° Roll 0° Pitch
+30
+20
+10
0
-10
-20
-30
180°
210°
240°
270°
300°
330°
0°
30°
60°
90°
120°
150°
180°

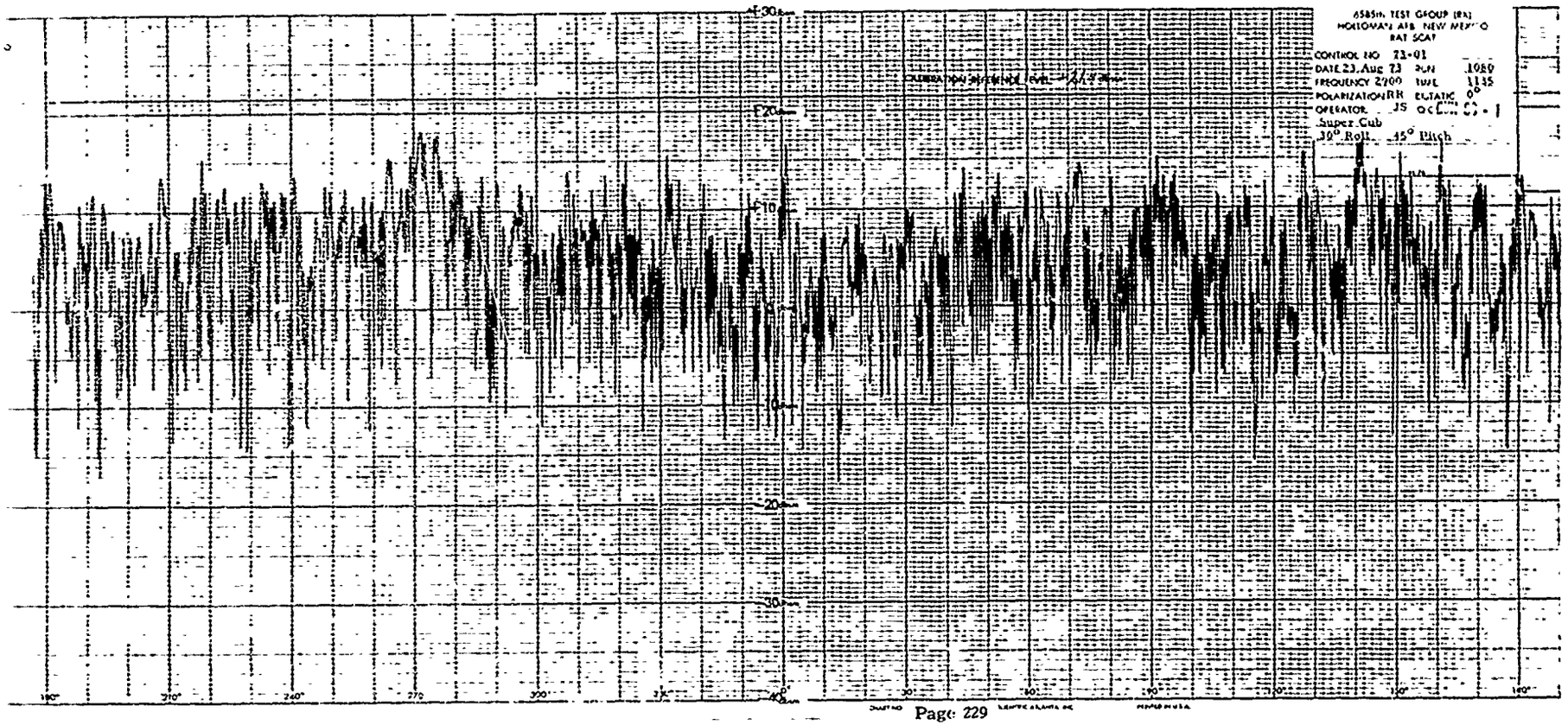

6585th TEST GROUP (MD)
HOLLOMAN AFB NEW MEXICO
RAT SCAT
CONTROL NO 73-01
DATE 23 Aug 73 RUN 1091
FREQUENCY 2900 TIME 1345
POLARIZATION RR BISTATIC 0°
OPERATOR JS
Super Cub
20° Roll +5° Pitch
+30
+20
+10
0
-10
-20
-30
30°
60°
90°
120°
150°
180°

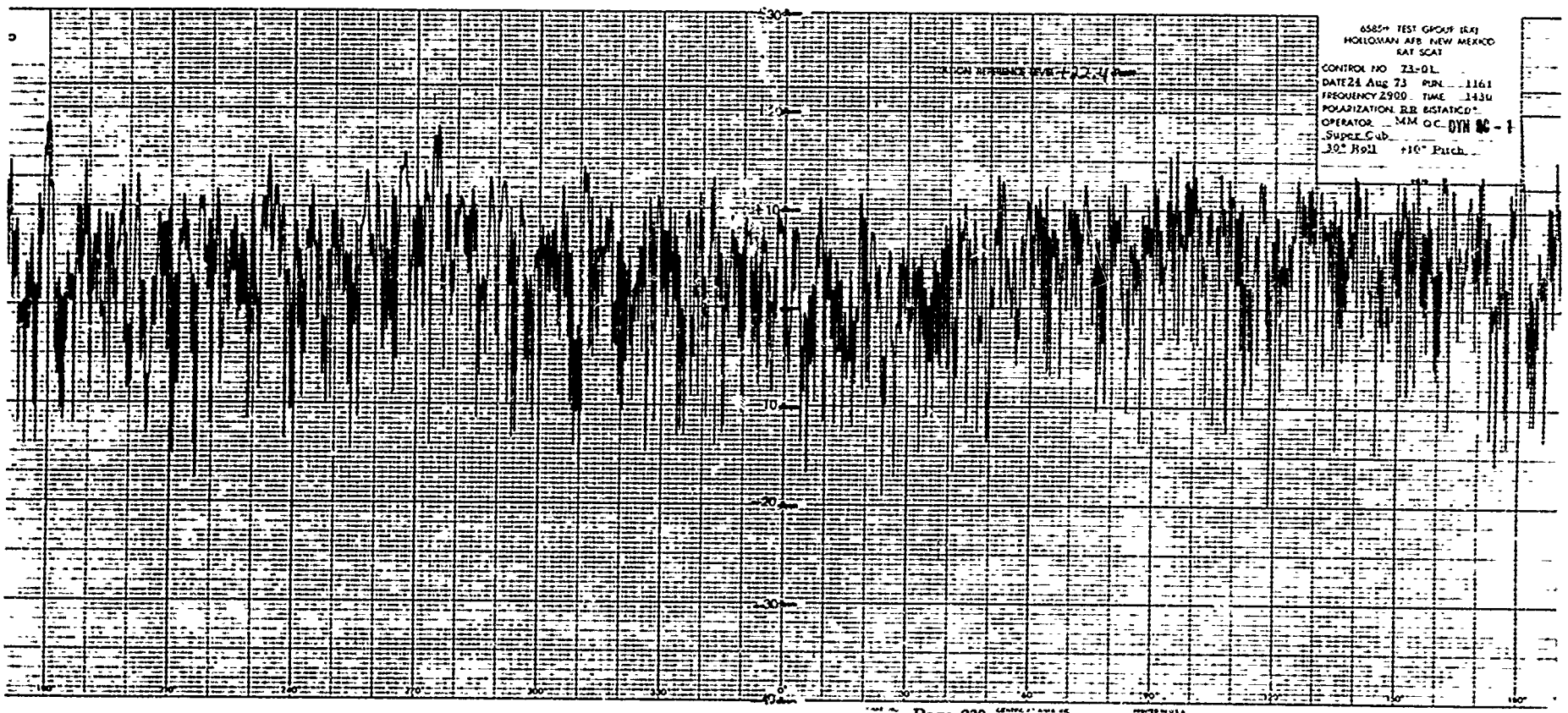

6555th TEST GROUP (RX)
HOLLOMAN AFB NEW MEXICO
RAT SCAT
CONTROL NO 73-02
DATE 24 Aug 73 RUN 1154
FREQUENCY 2900 TIME 1255
POLARIZATION RR BISTATIC 0°
OPERATOR BS QC DYN QC - 1
Super Cub
20° Roll +10° Pitch
+30
+20
+10
0
-10
-20
-30
180°
210°
240°
270°
300°
330°
0°
30°
60°
90°
120°
150°
180°

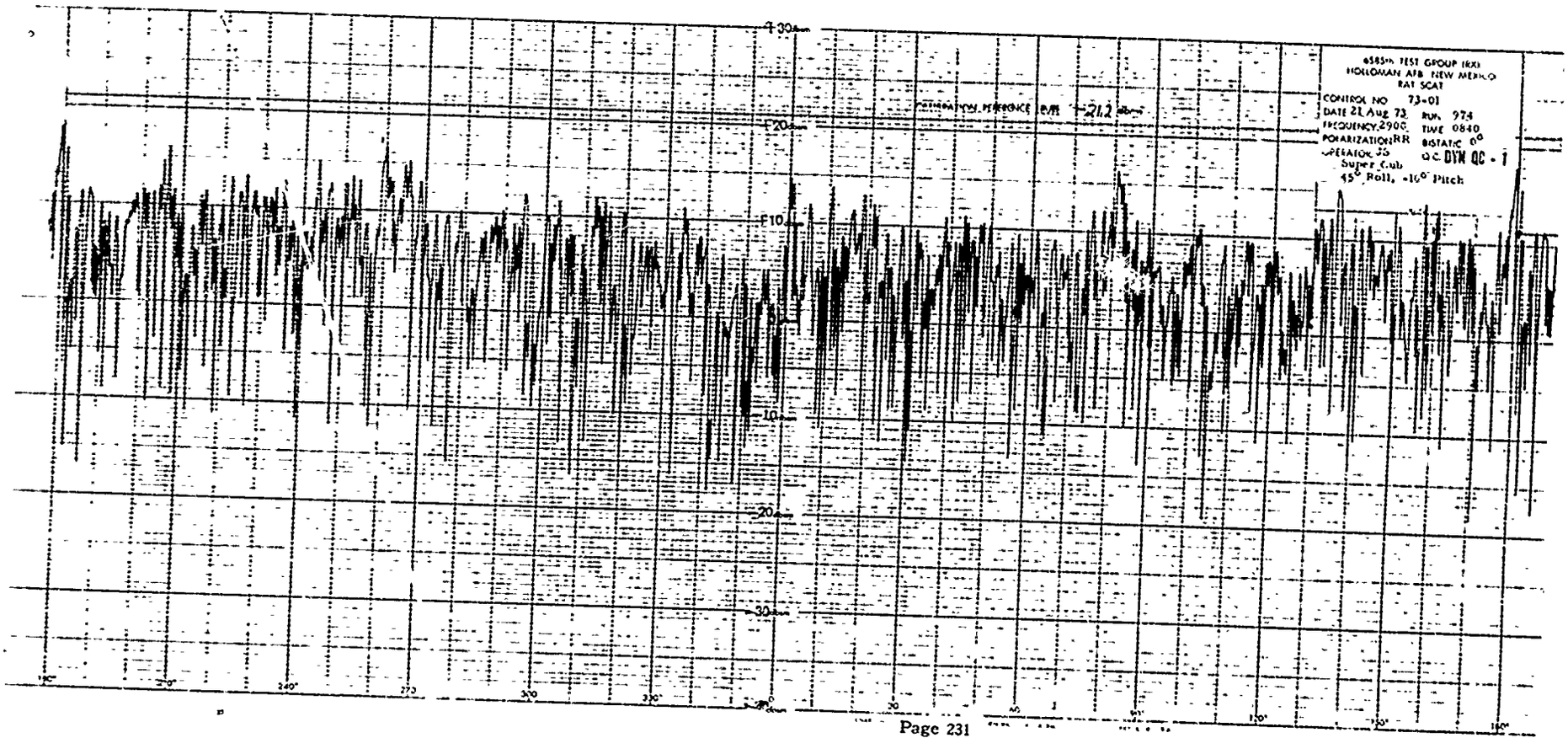

6585m TEST GROUP (RX)
HOLLOMAN AFB NEW MEXICO
RAT SCAT
CONTROL NO 73-01
DATE 21 Aug 73 PUL 977
FREQUENCY 2900 TIME 1000
POLARIZATION RR BISTATIC 0°
OPERATOR BS OC DYN QC - 1
Super Cub
30° Roll, -10° Pitch
+30
+20
+10
0
-10
-20
-30
-40

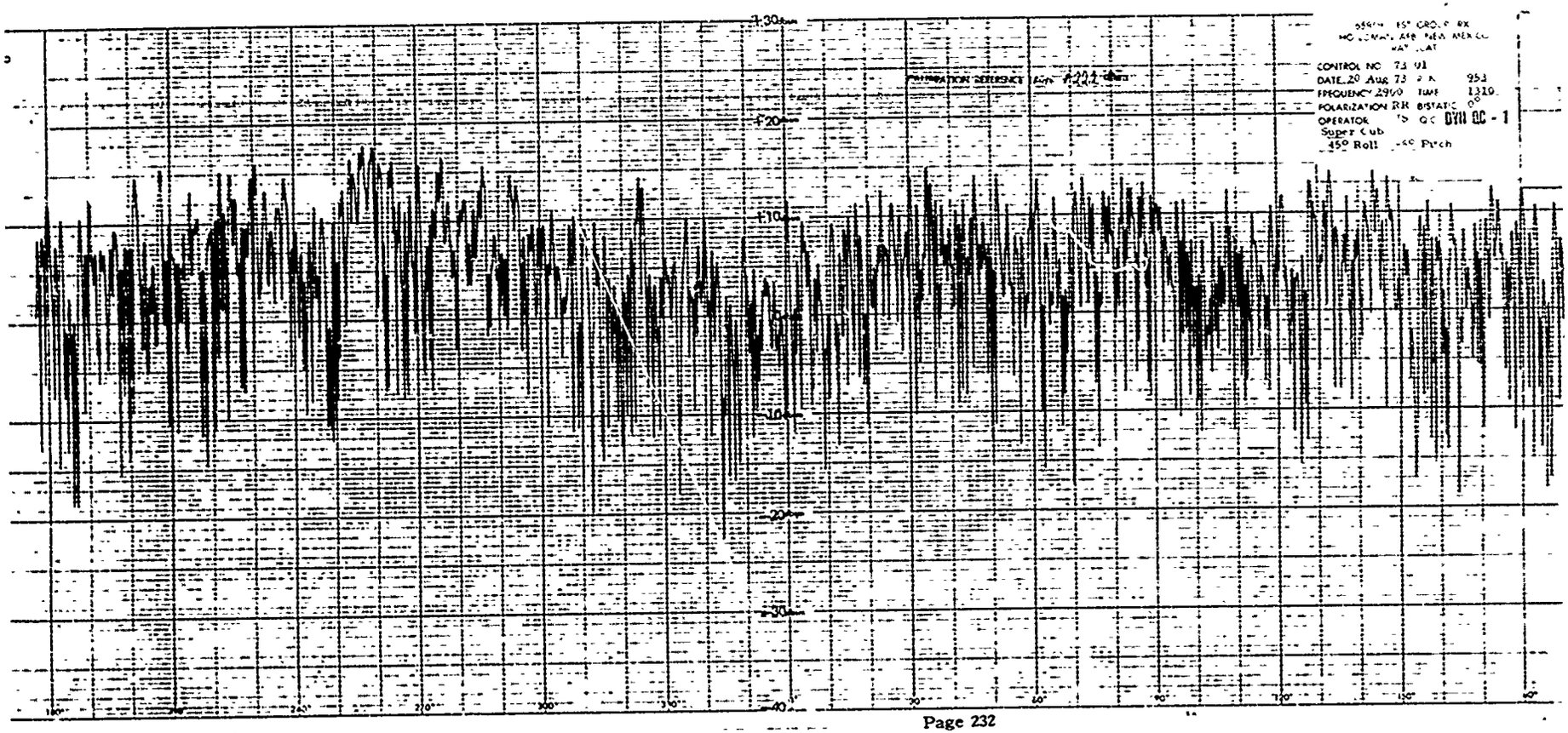

6585th TEST GROUP (RX)
HOLLOMAN AFB, NEW MEXICO
PAT SCAT
CONTROL NO. 73-01
DATE 23 Aug 73 RUN 1022
FREQUENCY 2200 TIME 15 10
POLARIZATION RR BISTATIC 0°
OPERATOR JS QC DTN QC - J.
Super Cub
30° Roll +5° Pitch
+30
+20
+10
0
-10
-20
-30
180°
210°
240
270°
300°
330°
0°
30°
60°
90°

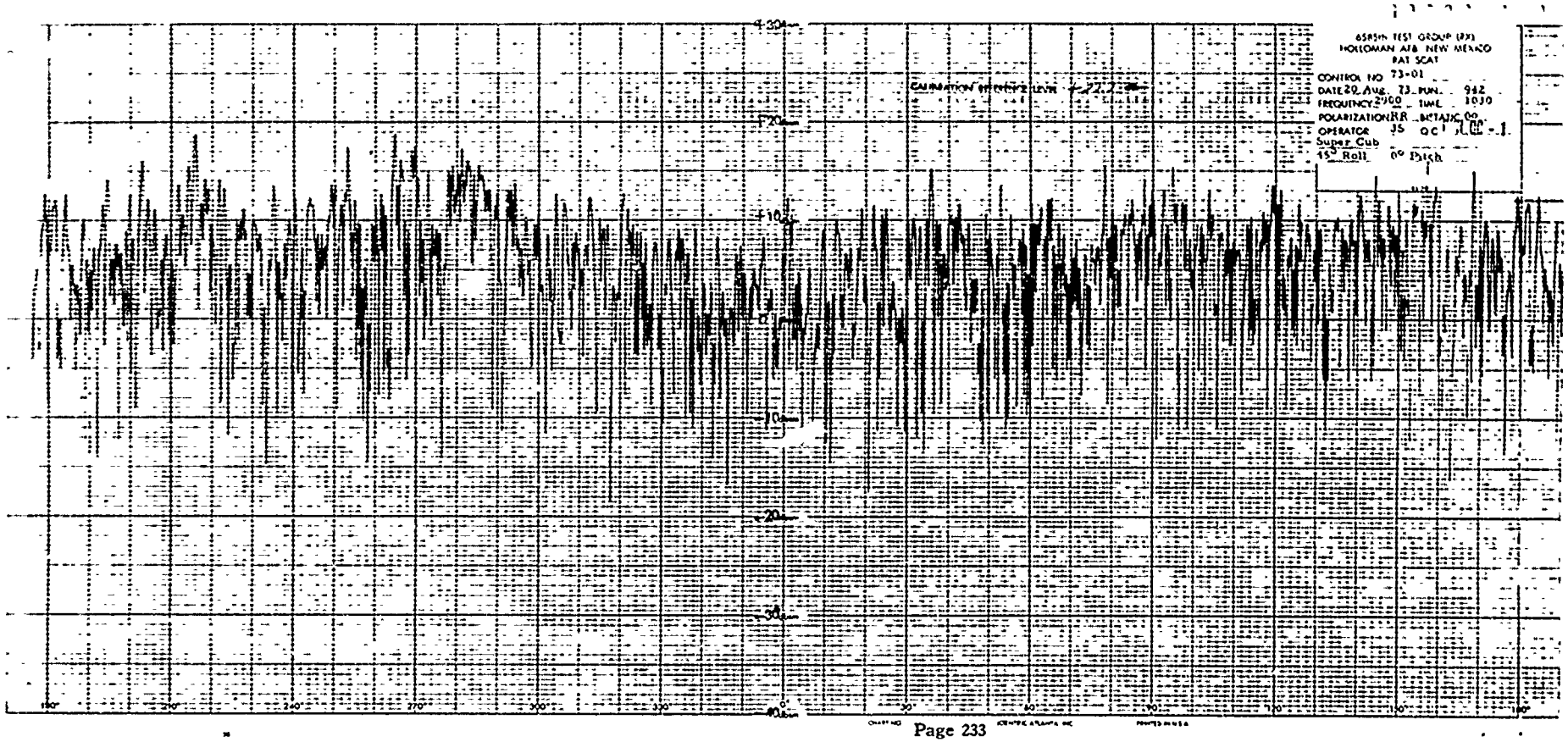

6595m TEST GROUP (PX)
HOLLOMAN AFB NEW MEXICO
RAT SCAT
CONTROL NO 73-91
DATE 20 Aug 75 RUN 939
FREQUENCY 2900 TIME 0235
POLARIZATION RL BISTATIC 05
OPERATOR JS QC
Supply Cub
35° Roll 10° Pitch
CALIBRATION CERTIFICATE LEVEL
-10dBsm
-20dBsm
-30dBsm
-40dBsm
180°
210°
240°
270°
300°
330°
0°
30°
60°
90°
120°
150°
180°

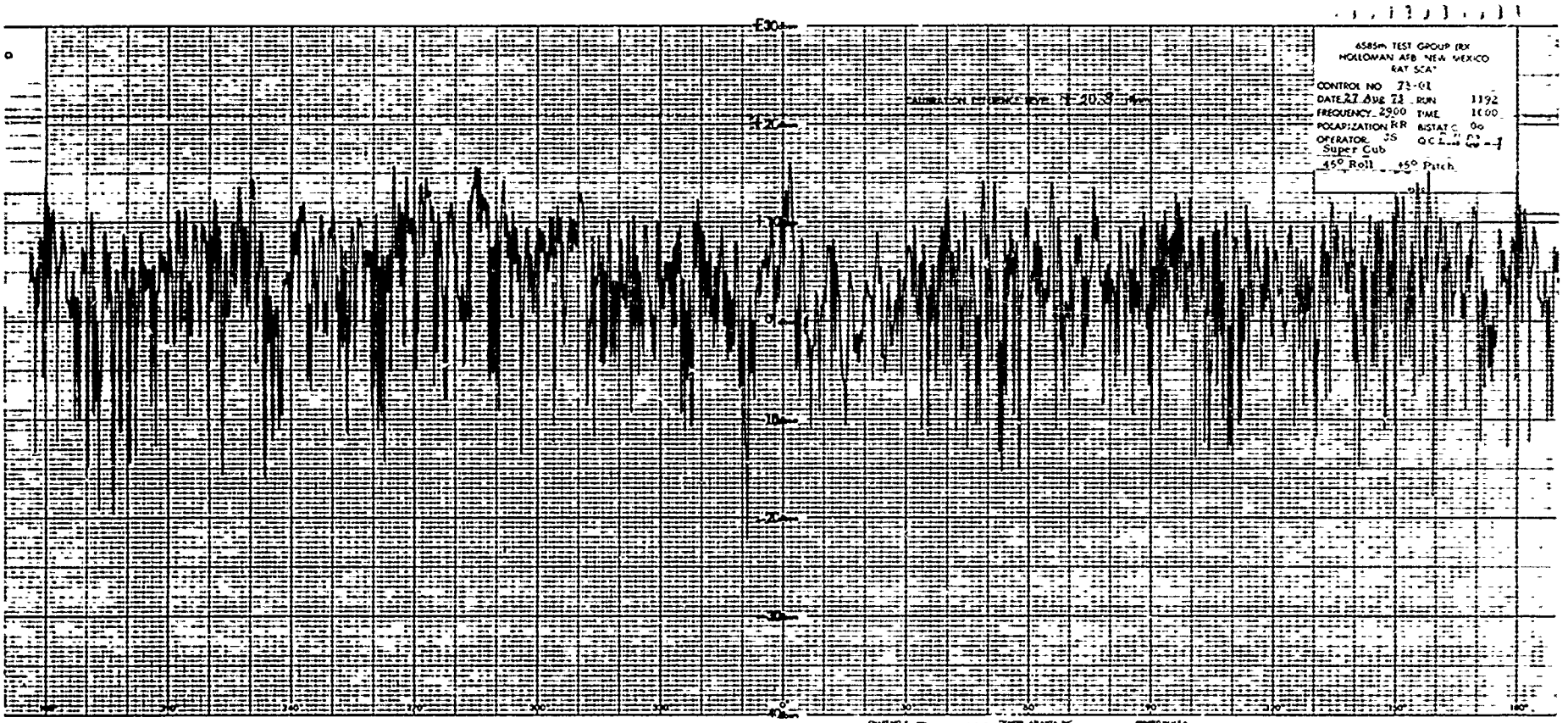

6585th TEST GROUP (RX)
HOLLOMAN AFB, NEW MEXICO
RAT SCAT
CONTROL NO 73-01
DATE 23 Aug 73 RUN 1089
FREQUENCY 2700 TIME 1135
POLARIZATION RR BISTATIC 0°
OPERATOR JS OC[illegible]
Super Cub
30° Roll 45° Pitch
+30dBsm
+20
+10
0
-10
-20
-30
180°
210°
240°
270
300°
330
0°
30°
60°
90°
120°
150°
180°

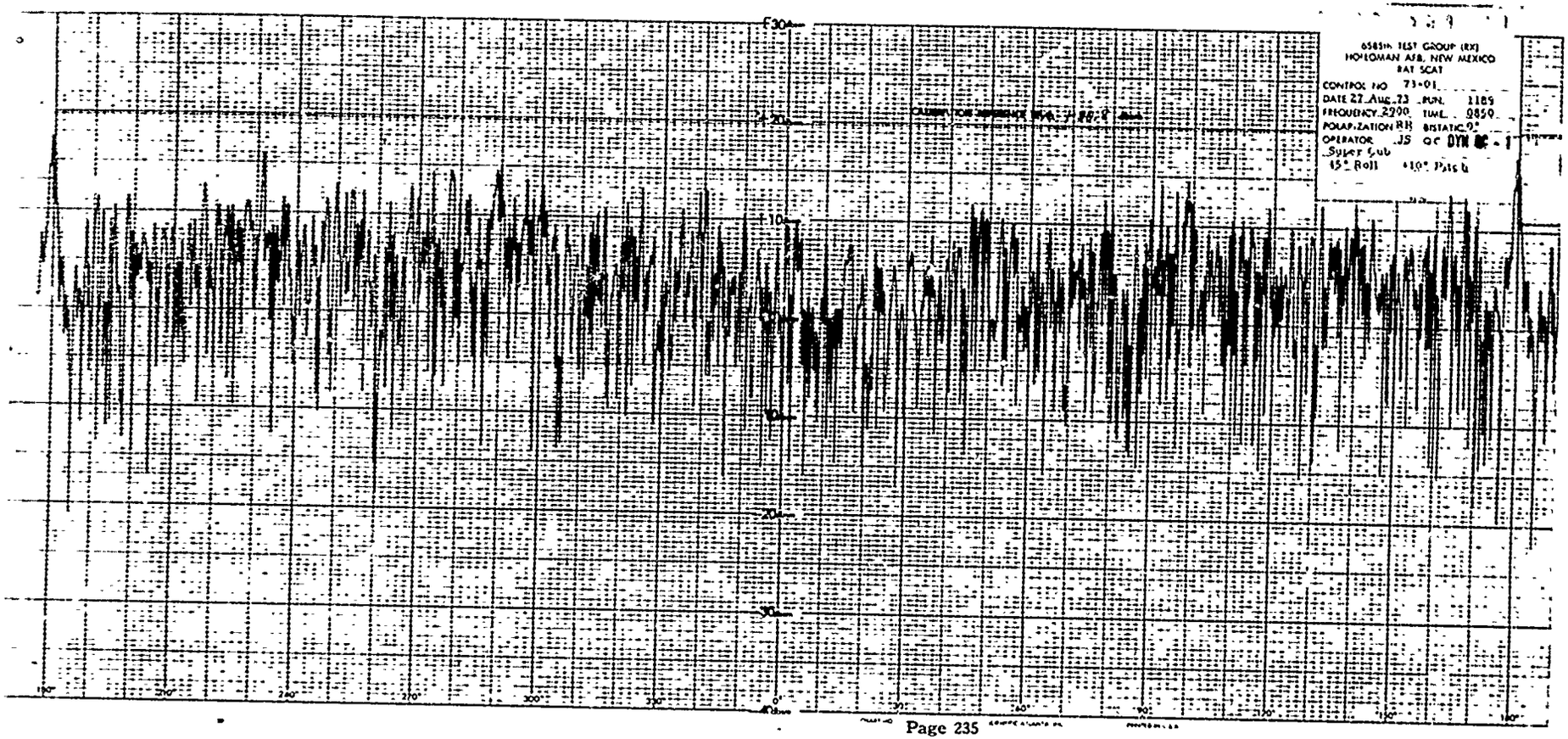

6585th TEST GROUP (RA)
HOLLOMAN AFB NEW MEXICO
RAT SCAT
CONTROL NO 73-01L
DATE 24 Aug 73 RUN 1161
FREQUENCY 2900 TIME 1430
POLARIZATION RR BISTATIC 0°
OPERATOR MM QC DYN RC - 1
Super Cub
30° Roll +10° Pitch
+30
+20
+10
0
-10
-20
-30
-40


6585th TEST GROUP (RX)
HOLLOMAN AFB NEW MEXICO
RAT SCAT
CONTROL NO 73-01
DATE 21 Aug 73 RUN 974
FREQUENCY 2900 TIME 0840
POLARIZATION RR BISTATIC 0°
OPERATOR JS QC DYN QC - 1
Super Cub
45° Roll, -16° Pitch
+30
+20
+10
0
-10
-20
-30
240°
270
300
330
0
30
60
90
120
150
180


CONTROL NO 73 91
DATE 20 Aug 73
FREQUENCY 2910
POLARIZATION RR
OPERATOR
Super Cub
45° Roll
953
1310
0°
DYN QC - 1
+30
+20
+10
-10
-20
-30
-40


6585th TEST GROUP (PX)
HOLLOMAN AFB NEW MEXICO
PAT SCAT
CONTROL NO 73-01
DATE 29 Aug 73 RUN 942
FREQUENCY 2900 TIME 1030
POLARIZATION RR BETA/XC 00
OPERATOR JS OC JLC-1
Super Cub
15° Roll 0° Pitch
+30
+20
+10
0
-10
-20
-30
-90°
0°
90°


6585th TEST GROUP (RX
HOLLOMAN AFB NEW MEXICO
RAT SCAT
CONTROL NO 73-01
DATE 27 Aug 73 RUN 1192
FREQUENCY 2900 TIME 1100
POLARIZATION RR BISTAT C 0o
OPERATOR JS
Super Cub
45° Roll 45° Pitch
+30
+20
+10
0
-10
-20
-30
-40
0°
30
60
90
120
150
180
210
240
270
300
330
360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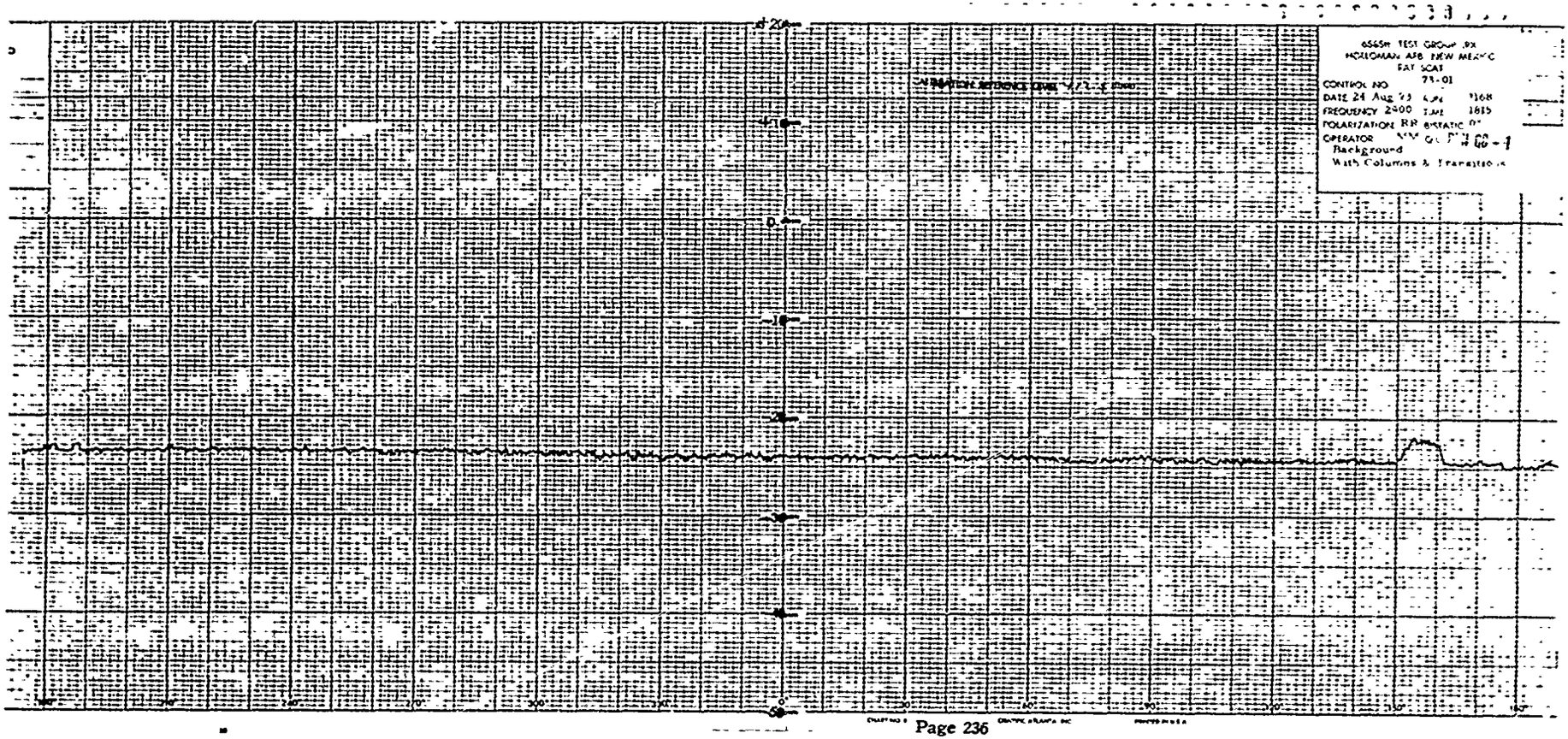
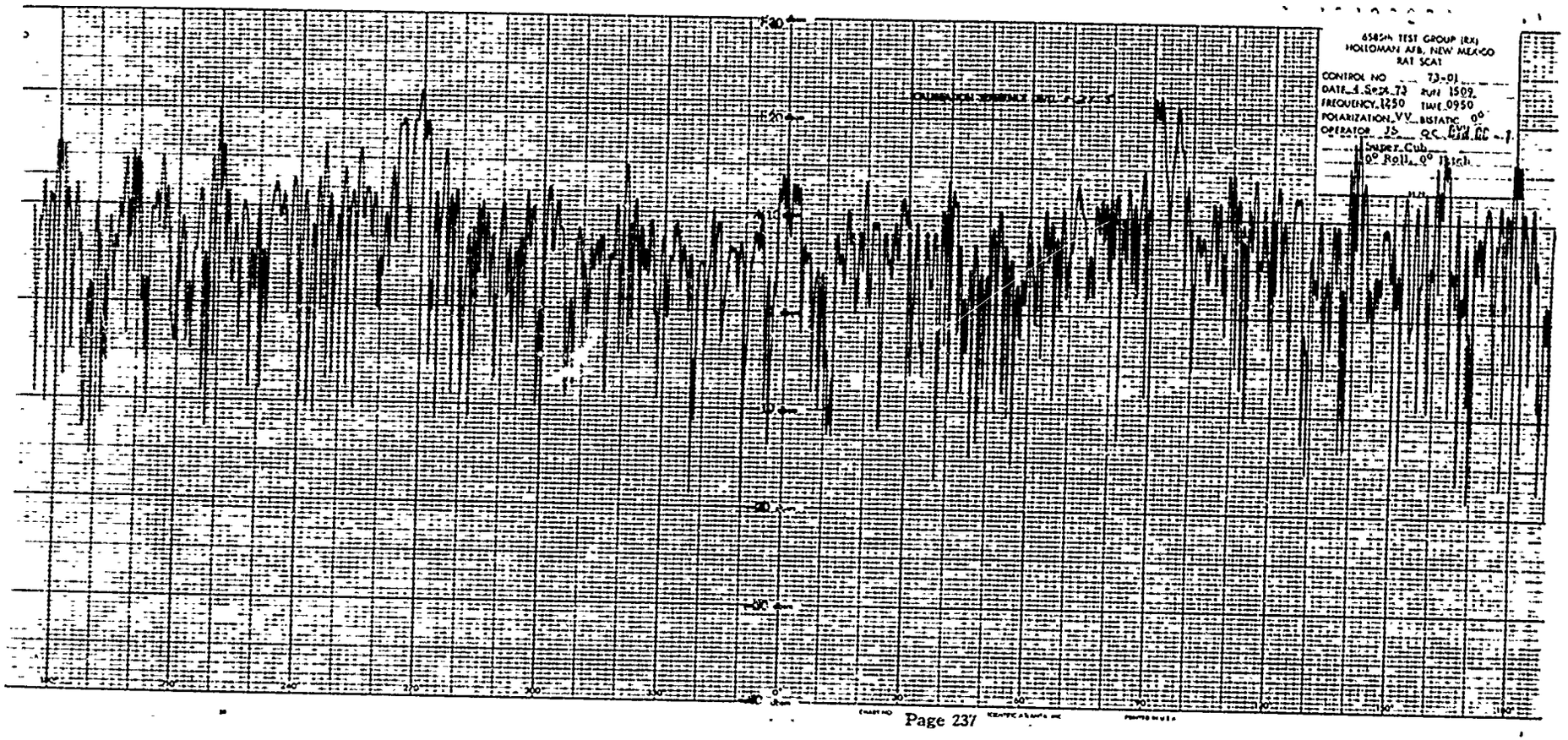
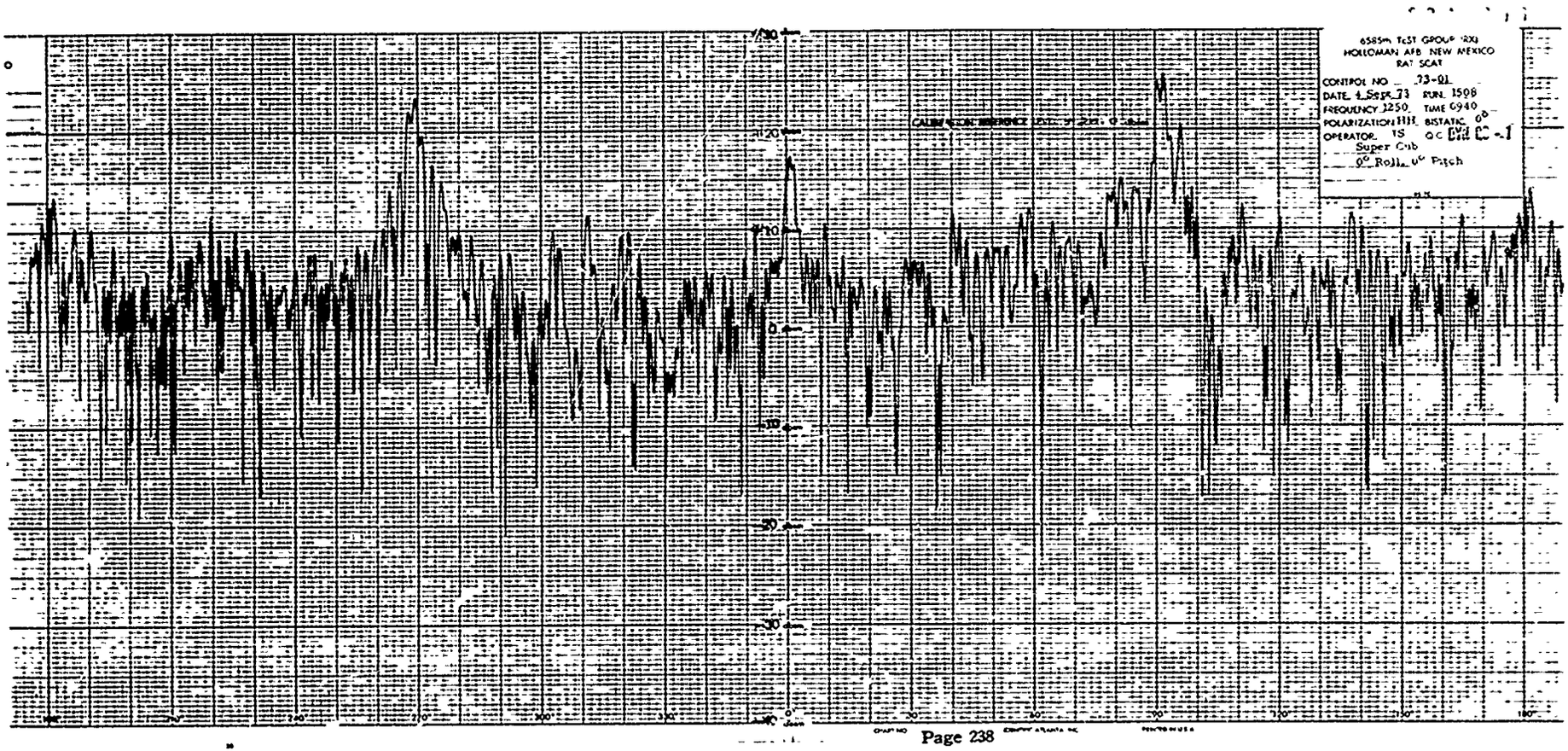
HOLLOMAN AFB, NEW MEXICO
RAT SCAT
CONTROL NO 73-01
DATE 27 Aug 73 RUN 1185
FREQUENCY 2200 TIME 0850
POLARIZATION RR BISTATIC 0°
OPERATOR JS QC DYN RC - 1
Super Gub
15° Roll ±10° Pitch
-30
-20
-10
0
10
20
30
180°
240°
270°
300°
330°
0°
30°
60°
90°
120°
150°
180°


6565th TEST GROUP (R)
HOLLOMAN AFB NEW MEXICO
FAT SCAT
CONTROL NO. 73-01
DATE 24 Aug 73
FREQUENCY 2900
POLARIZATION RHP
OPERATOR
Background
With Columns & Transmitter
+20
+10
0
-10
-20
-30
-40
-50


6585th TEST GROUP (RX)
HOLLOMAN AFB, NEW MEXICO
RAT SCAT
CONTROL NO 73-01
DATE 4 Sept 73 RUN 1502
FREQUENCY 1250 TIME 0950
POLARIZATION VV BISTATIC 0°
OPERATOR JS QC
Super Cub
0° Roll, 0° Pitch
+30
+20
+10
0
-10
-20
-30
-40
180°
270°
0°
90°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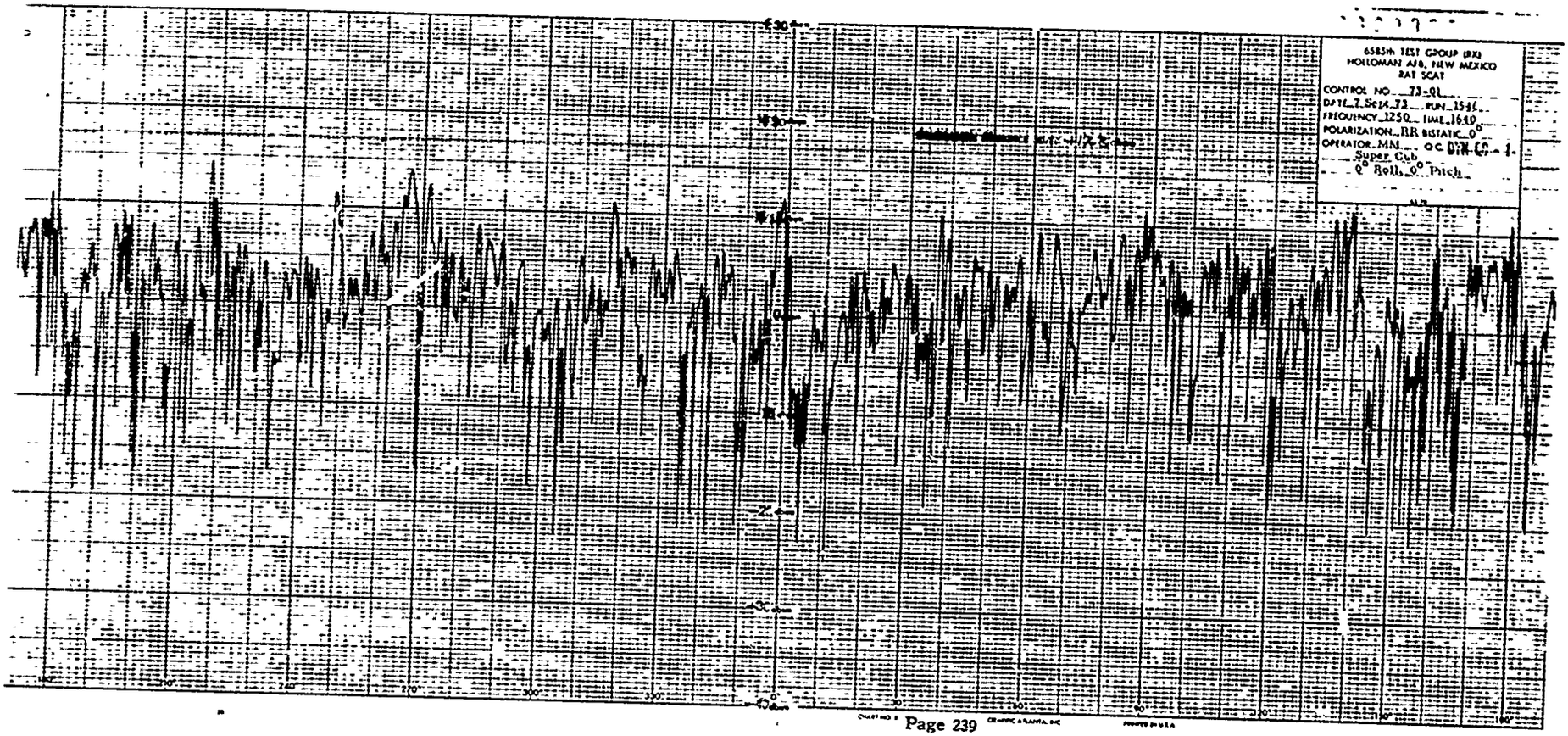
HOLLOMAN AFB NEW MEXICO
RAT SCAT
CONTROL NO 73-91
DATE 4 Sept 73 RUN 1508
FREQUENCY 3250 TIME 6940
POLARIZATION HH BISTATIC 0°
OPERATOR TS
Super Cub
9° Roll 0° Pitch
+30
+20
+10
0
-10
-20
-30
0°
30
60
90
120
150
180
210
240
270
300
330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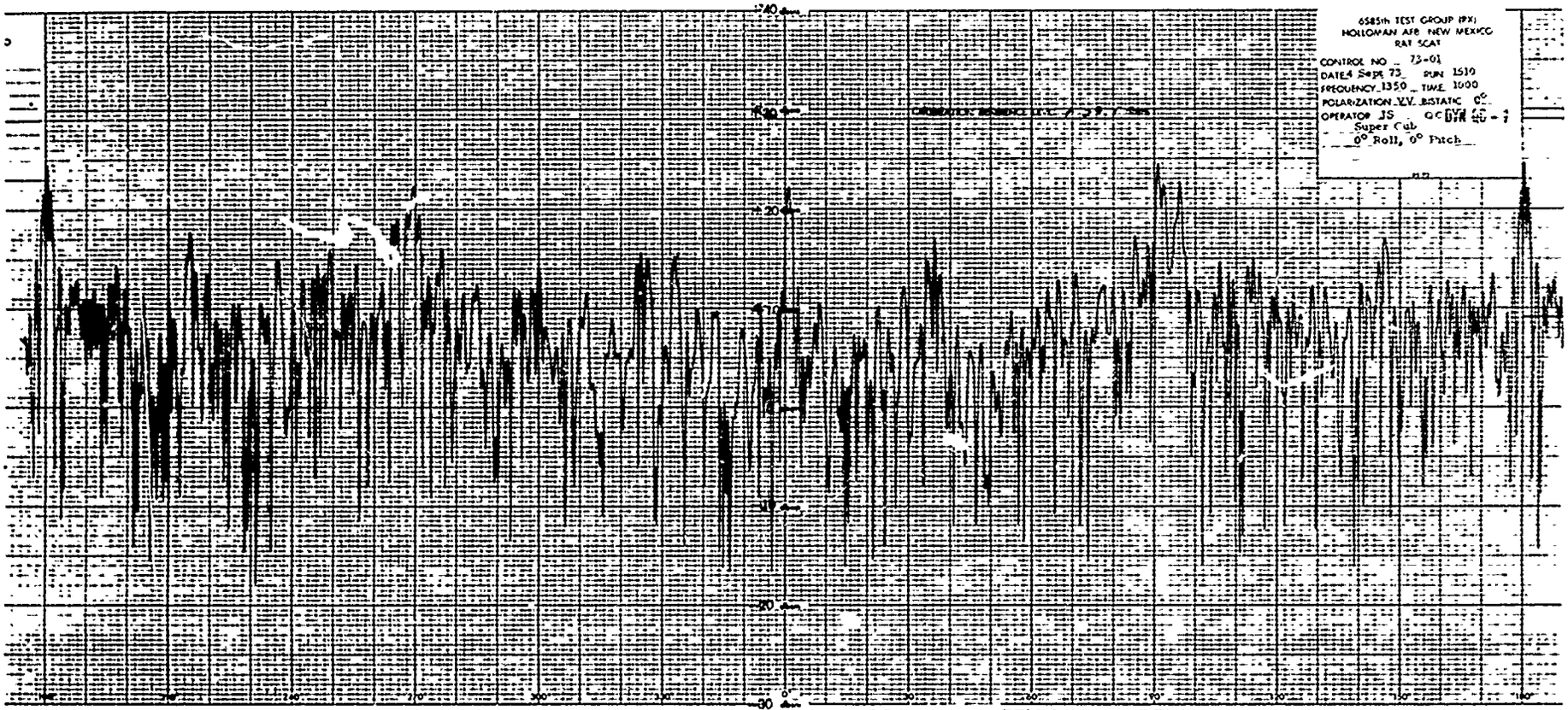
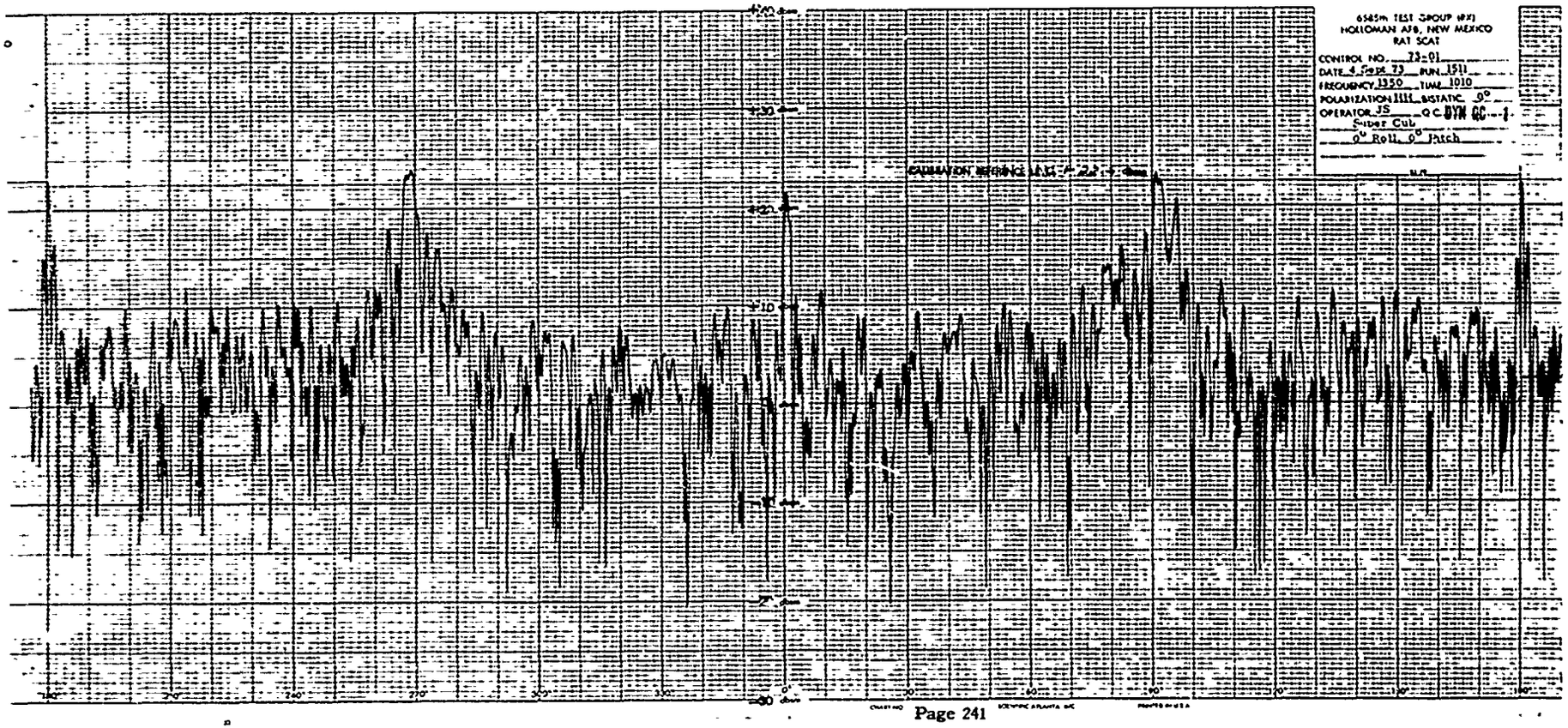
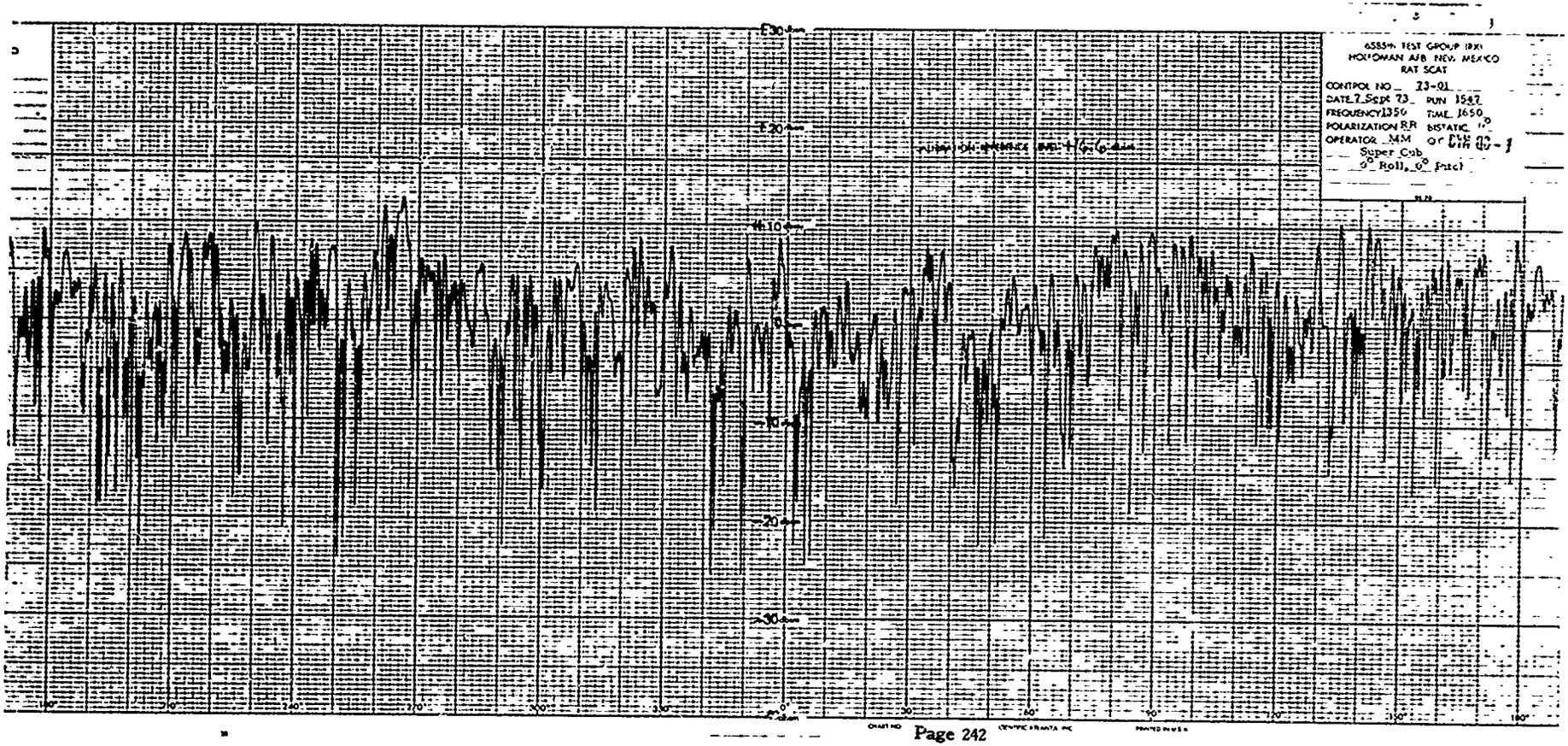
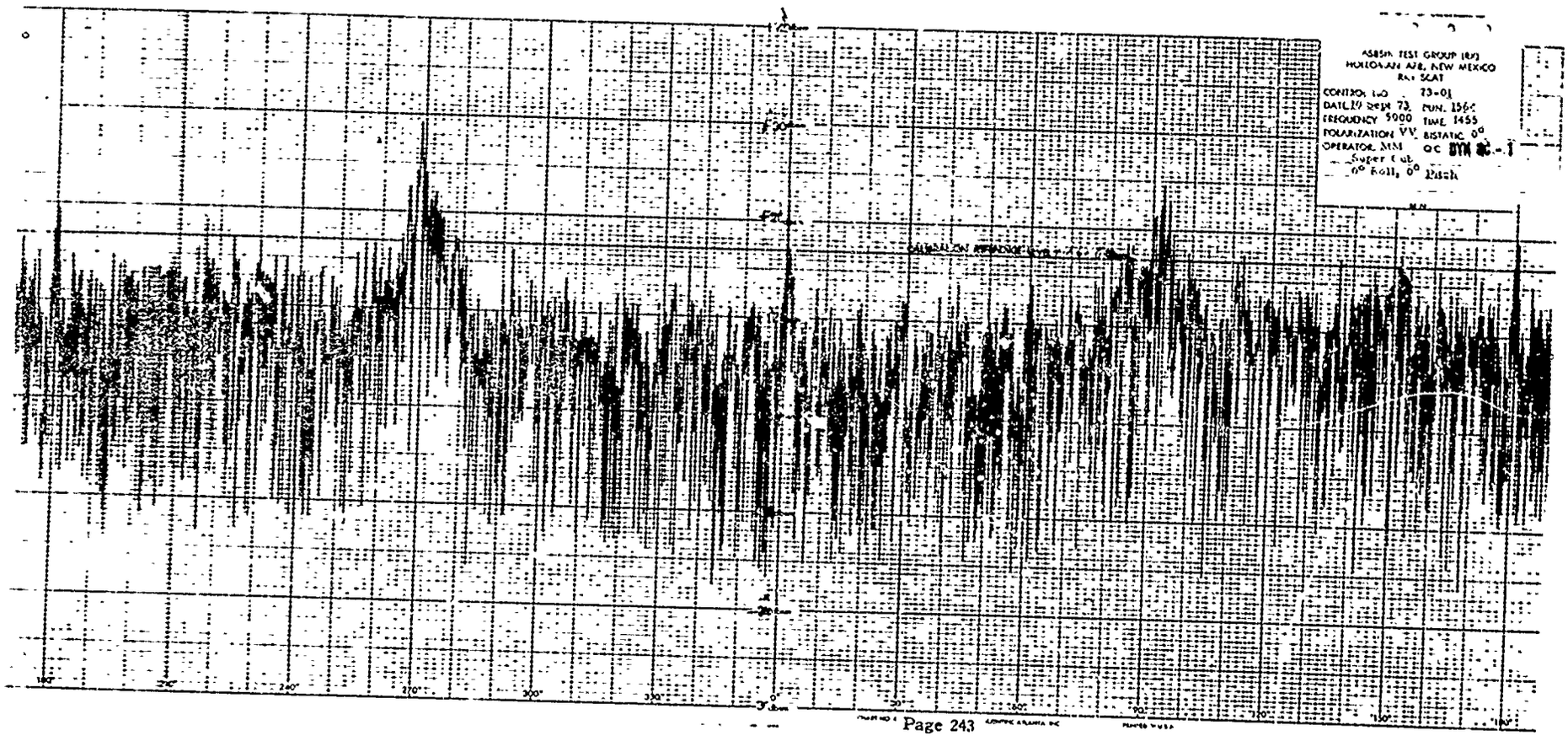
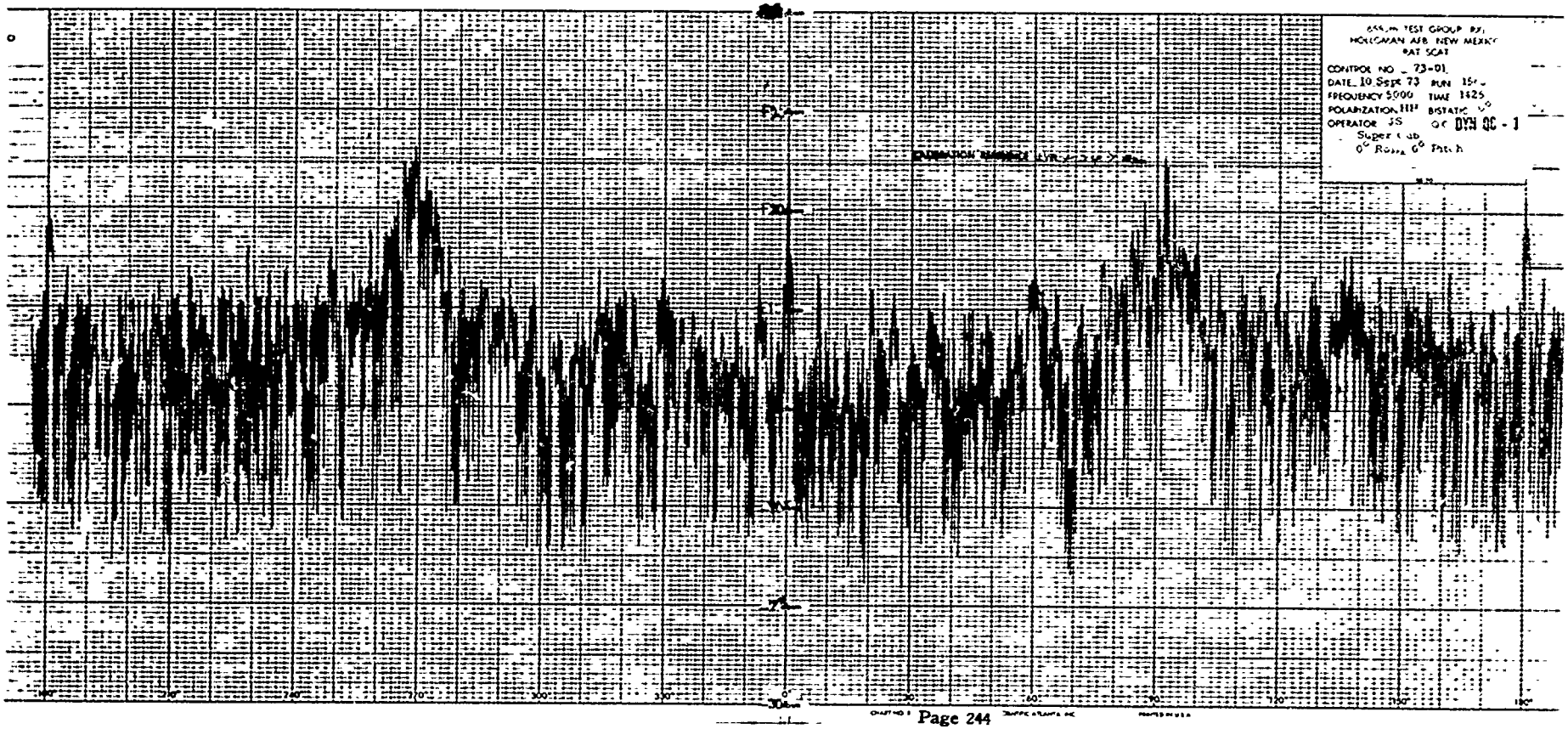
HOLLOMAN AFB, NEW MEXICO
RAT SCAT
CONTROL NO. 73-01
DATE 7 Sept 73 RUN 1545
FREQUENCY 1250 TIME 1640
POLARIZATION RR BISTATIC 0°
OPERATOR MN QC
Super Cub
0° Roll, 0° Pitch

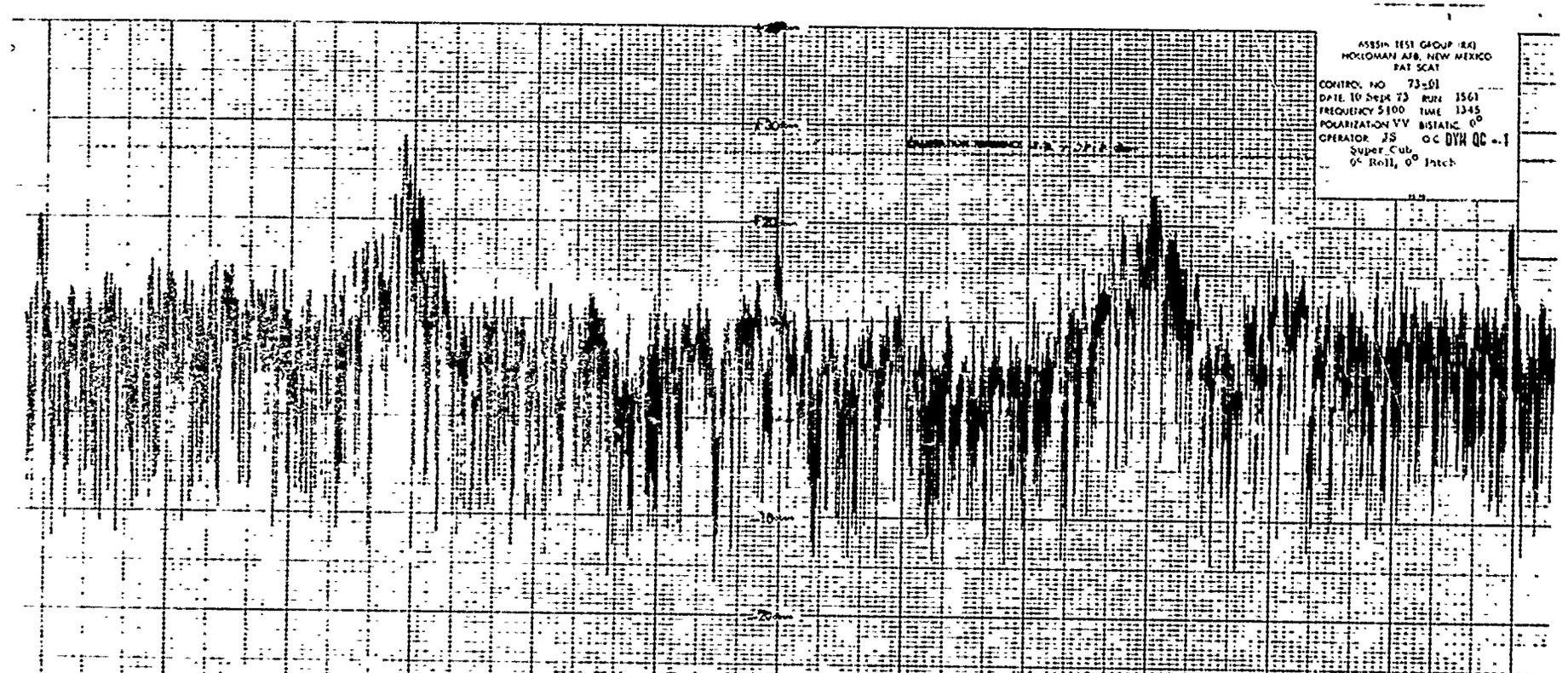

6585th TEST GROUP (PX)
HOLLOMAN AFB NEW MEXICO
RAT SCAT
CONTROL NO 73-01
DATE 4 Sept 73 RUN 1510
FREQUENCY 1350 TIME 1000
POLARIZATION V.V. BISTATIC 0°
OPERATOR JS GC DWG 40-1
Super Cub
0° Roll, 0° Pitch
40
30
20
10
0
30
20
10
0°
30
20
10

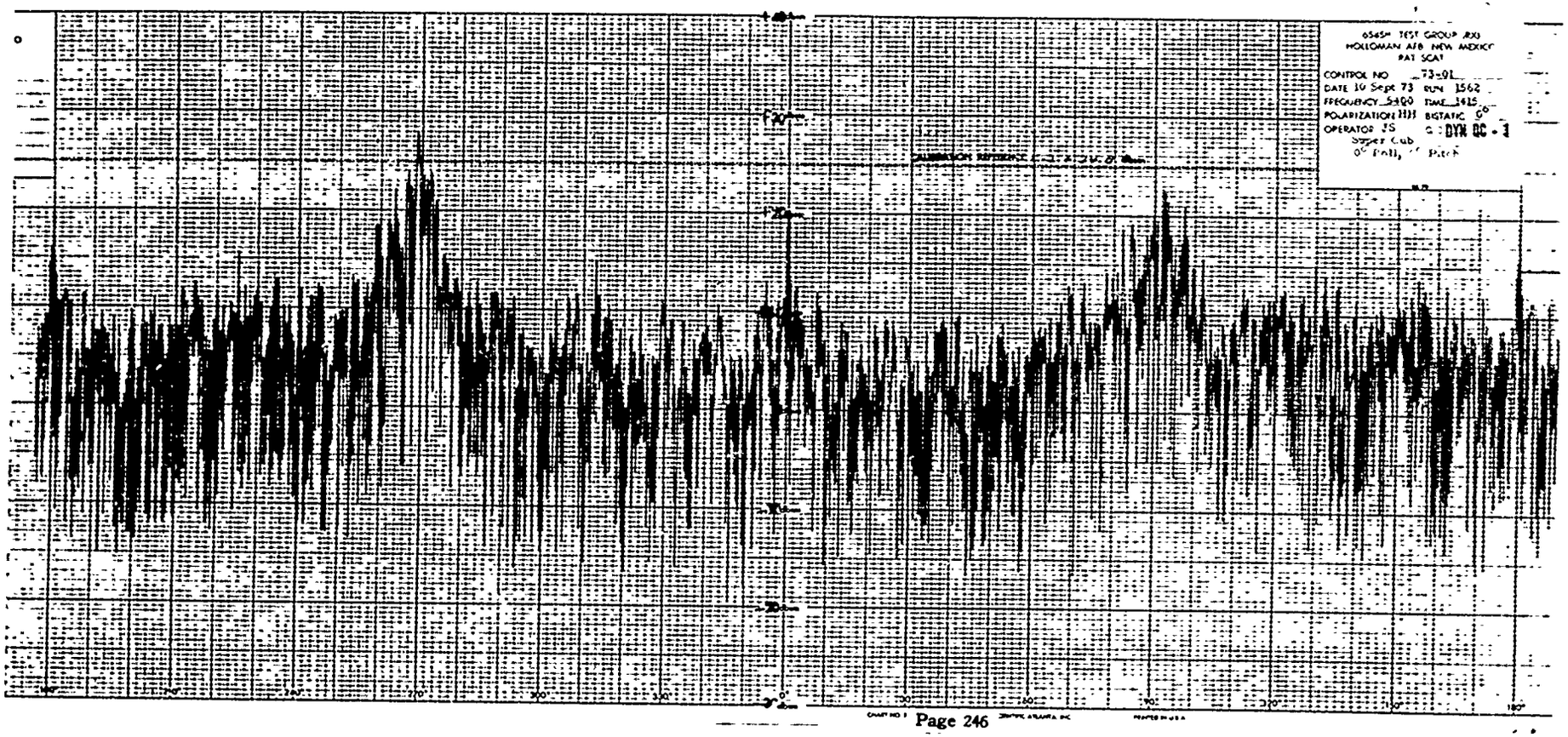

6585m TEST GROUP (RF)
HOLLOMAN AFB, NEW MEXICO
RAT SCAT
CONTROL NO. 73-01
DATE 4 Sept 73 RUN 1511
FREQUENCY 1350 TIME 1010
POLARIZATION HH BISTATIC 0°
OPERATOR JS QC DYN GC-1
Snider Cub
0° Roll, 0° Pitch
+30 dBsm
+20
+10
0
-10
-20
-30 dBsm
0°
30
60
90
120
150
180
210
240
270
300
330

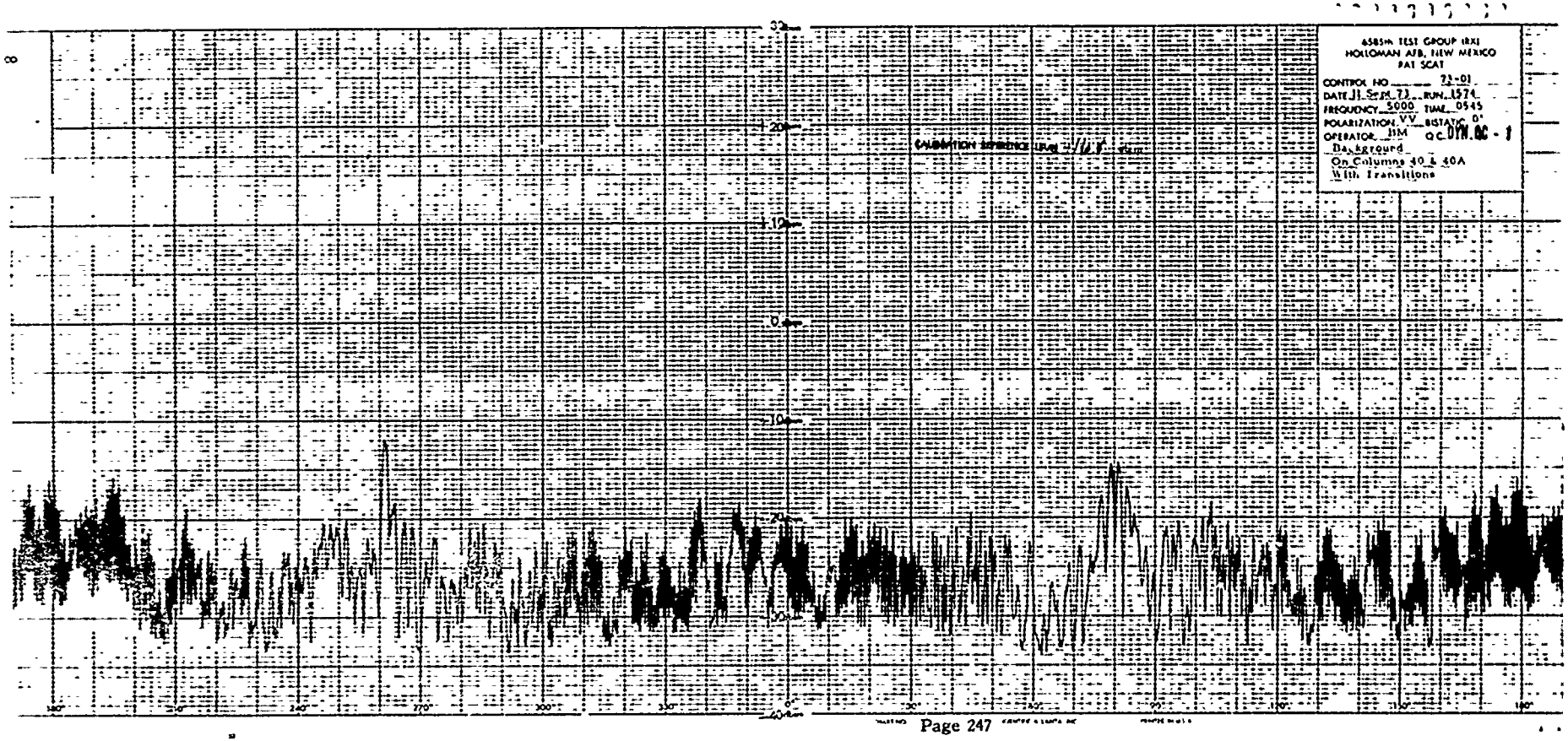

6585th TEST GROUP (RX)
HOLLOMAN AFB NEW MEXICO
RAT SCAT
CONTROL NO 23-01
DATE 7 Sept 73 RUN 1547
FREQUENCY 1350 TIME 1650
POLARIZATION RR BISTATIC 17°
OPERATOR MM OF Elk 40 - 1
Super Cub
0° Roll, 0° Pitch
+30
+20
+10
0
-10
-20
-30
0°
30
60
90
120
150
180
210
240
270
300
330

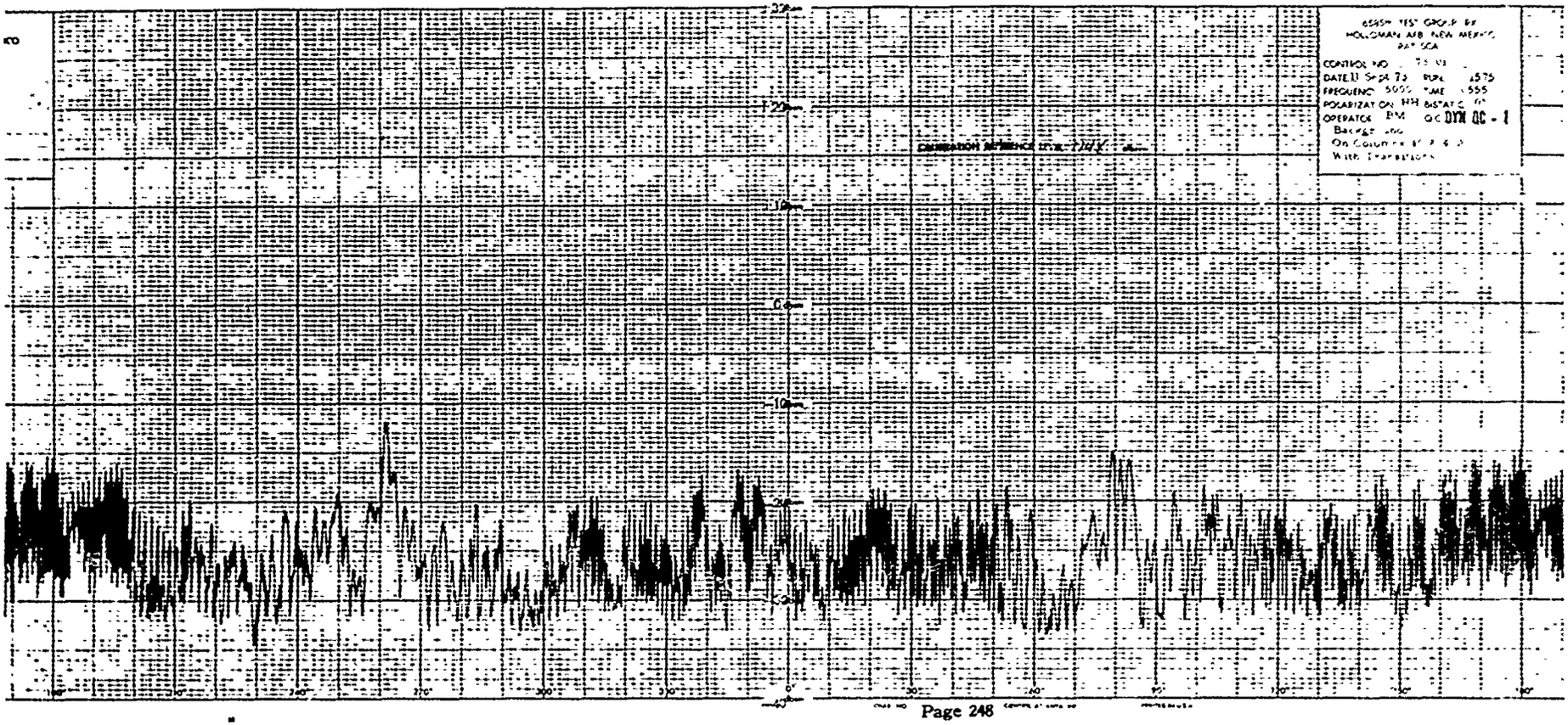

ASESA TEST GROUP (RP)
HOLLOMAN AFB, NEW MEXICO
RAI SCAT
CONTROL NO 73-01
DATE 19 SEPT 73 RUN 1566
FREQUENCY 9000 TIME 1455
POLARIZATION VV BISTATIC 0°
OPERATOR MM OC DYN RC-1
Super Cub
0° Roll, 0° Pitch
180°
240°
270°
300°
330°
0°
30°
60°
90°
120°
150°
180°

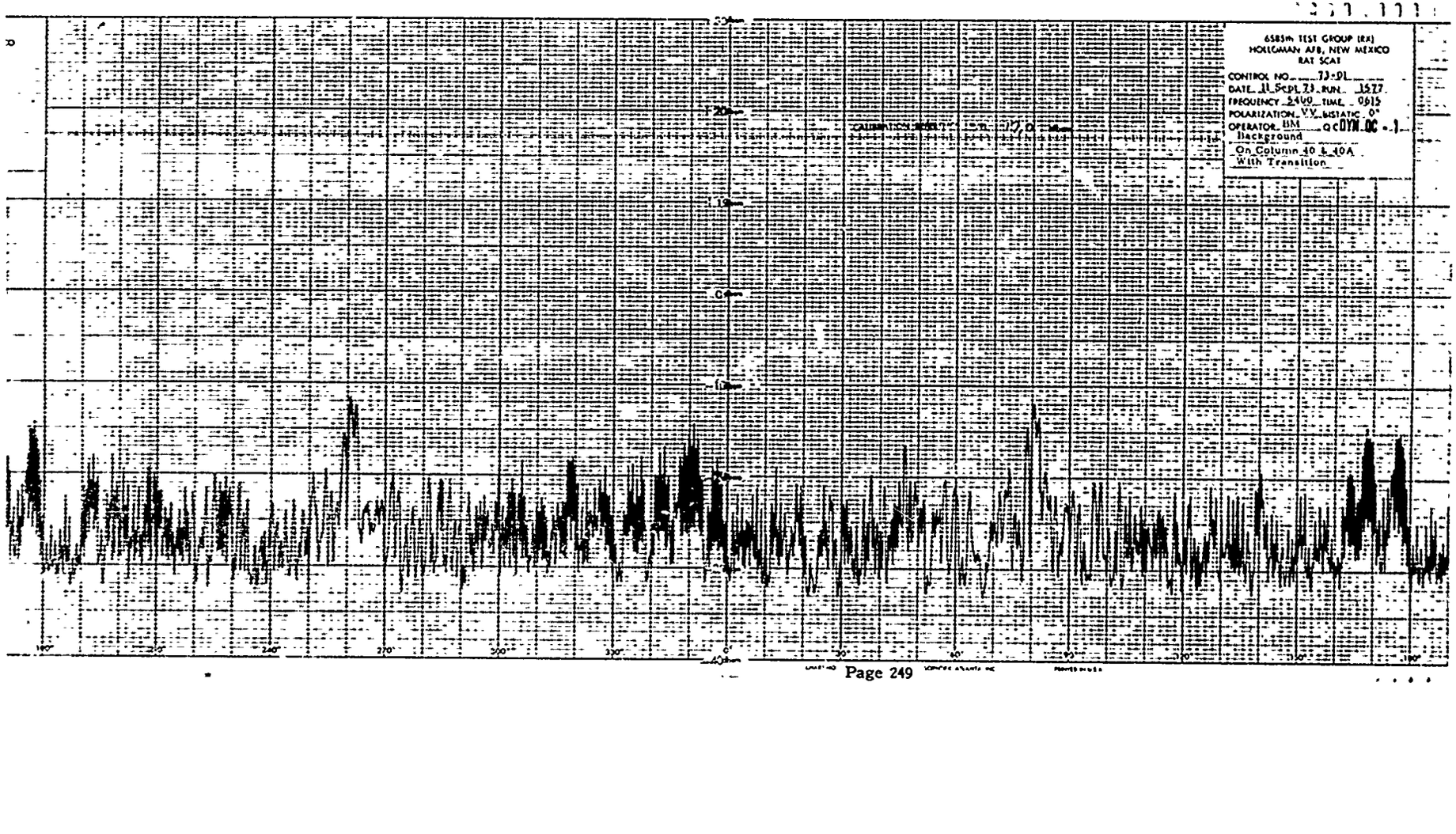

TEST GROUP
HOLLOMAN AFB NEW MEXICO
RAT SCAT
CONTROL NO. 73-01
DATE 10 Sept 73 RUN
FREQUENCY 5000 TIME 1425
POLARIZATION
OPERATOR JS
Super Cub
0° Roll 0° Pitch
QC DYN QC - 1

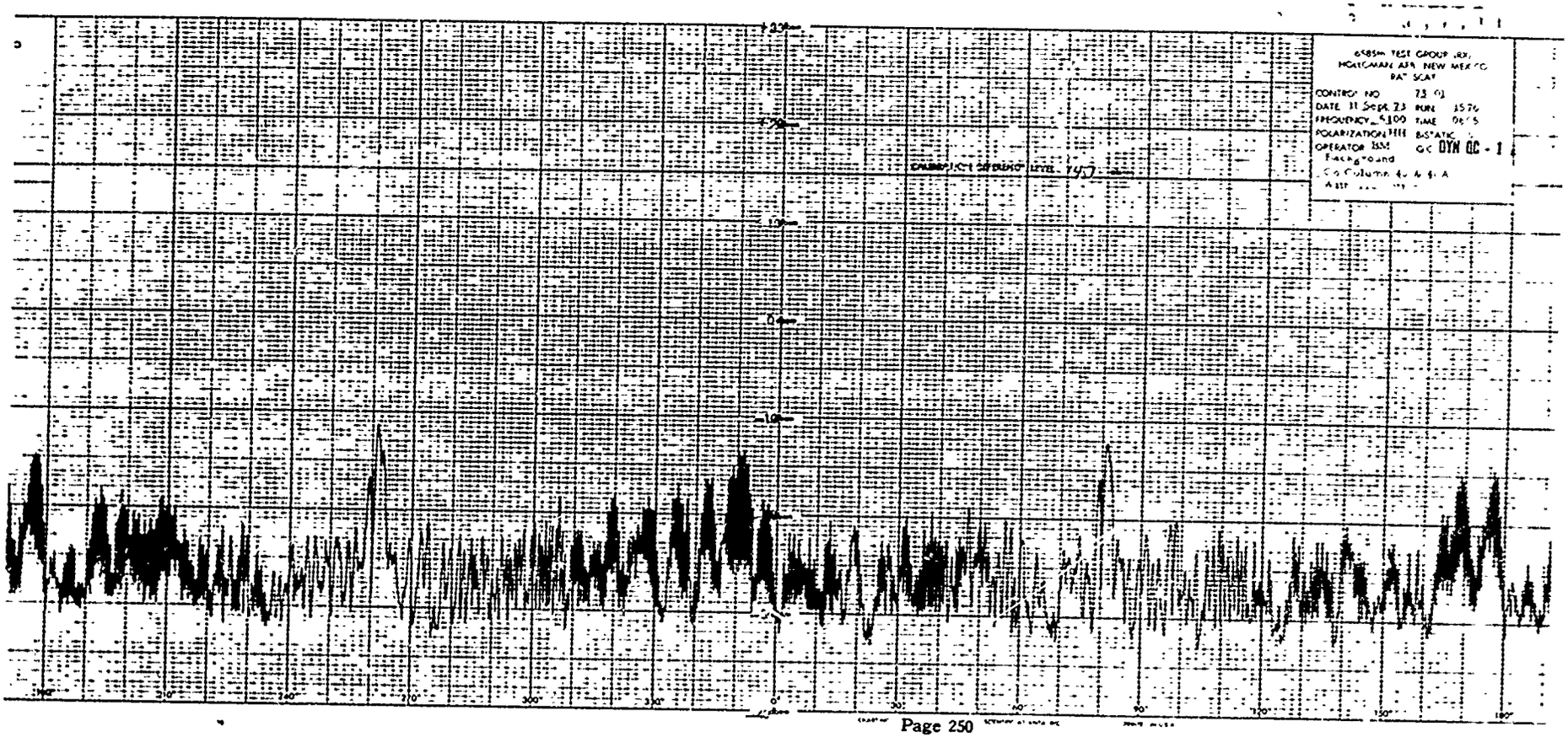

4585th TEST GROUP (RA)
HOLLOMAN AFB, NEW MEXICO
PAT SCAT
CONTROL NO 73-501
DATE 10 Sept 73 RUN 1561
FREQUENCY 5100 TIME 1345
POLARIZATION VV BISTATIC 0°
OPERATOR JS OC DYW QC -.1
Super Cub
0° Roll, 0° Pitch
-10
-20
0°
30°
60°
90°
120°
150°
180°
210°
240°
270°
300°
330°


6545th TEST GROUP /RX
HOLLOMAN AFB NEW MEXICO
PAT SCAT
CONTROL NO 73-91
DATE 10 Sept 73 RUN 1562
FREQUENCY 5400 TIME 1415
POLARIZATION HH BISTATIC 0°
OPERATOR JS
Super Cub
0° Roll, 7° Pitch
DYN QC - 1


4585th TEST GROUP (RX)
HOLLOMAN AFB, NEW MEXICO
PAT SCAT
CONTROL NO. 73-01
DATE 11 SEPT 73 RUN L574
FREQUENCY 5000 TIME 0545
POLARIZATION VV BISTATIC 0°
OPERATOR JIM QC DTN.QC - 1
Background
On Columns 40 & 40A
With Transitions
CALIBRATION REFERENCE LEVEL
30
20
10
0
-10
-20
-30
-40
0°
30°
60°
90°
120°
150°
180°
210°
240°
270°
300°
330°


dB
6555th "ES" GROUP AT
HOLLOMAN AFB NEW MEXICO
PAT SCA
CONTROL NO
DATE 11 Sept 73
FREQUENC 5600
POLARIZAT ON HH
OPERATOR PM
QC DYN QC - 1
Backup
On Column
With Translation
CALIBRATION REFERENCE LEVEL
20
10
0
-10
-20
-40
0°
90°
180°
270°
360°


6585th TEST GROUP (RX)
HOLLOMAN AFB, NEW MEXICO
RAT SCAT
CONTROL NO. 73-91
DATE 11 Sept 73 RUN 1527
FREQUENCY 2400 TIME 0615
POLARIZATION VV BISTATIC 0°
OPERATOR BM QC DYN. OC -1
Background
On Column 40 & 40A
With Transition


6585th TEST GROUP (RX)
HOLLOMAN AFB NEW MEXICO
RAT SCAT
CONTROL NO 73 01
DATE 11 Sept 73 RUN 1576
FREQUENCY 9300 TIME 0615
POLARIZATION HH BISTATIC
OPERATOR BSM GC DYN GC - 1
Background
+20
+10
0
-10
-20
180°
210°
240°
270°
300°
330°
0°
30°
60°
90°
120°
150°
180°

APPENDIX A
SITE INTRODUCTION

1. GENERAL

RAT SCAT is a static ground plane radar cross section measurement site, located on Alkali Flats near Holloman Air Force Base, New Mexico. It is authorized by the DOD for use by governmental agencies. It is under the auspices of the 6585th Test Group, Air Force Special Weapons Center, Kirtland Air Force Base, New Mexico.

A ground plane range utilizes radar energy reflected from the earth as well as radar energy traveling directly to the target through the atmosphere. When the antennas and target are adjusted to proper heights, coherent phase addition of these electromagnetic waves into a flat wave front, enhances the system sensitivity. Radar returns from objects near the earth's surface are reduced thus suppressing target area interference. Target area interference is reduced further through the use of special polyfoam support columns, radar absorptive materials (RAM), and rotators located below the earth's surface (in pits).

Pulsed transmitters are employed to enable utilization of the range gated receiving system, which can selectively measure radar returns from the target area or the range displaced transfer standard. Background interference outside the target range is eliminated by range gating. Operation without background cancellation is therefore practical.

2. CAPABILITIES

The RAT SCAT electronic equipment and controls are housed in a permanent building. Three separate range lengths (458 feet, 1158 feet, and 2458 feet) are provided for range variation as shown in Figure A-1. This allows the use of convenient antenna and target heights while satisfying the far field criterion for most targets. (Special 40-foot antenna towers are attached to the building for antenna height positioning.) Further versatility is provided by two mobile equipment vans, one for monostatic range length variation and one for bistatic measurements. A duplicate set of control and data consoles in the main building enables simultaneous operation of any two of the three ranges. A summary of the RAT SCAT characteristics is contained in Table A-1.

3. CALIBRATION

The normal method of calibration at RAT SCAT is to mount a primary standard (precision sphere) scatterer with a known radar cross section and record the corresponding signal level. Then the return from another secondary standard (corner or Luneberg lens) scatterer

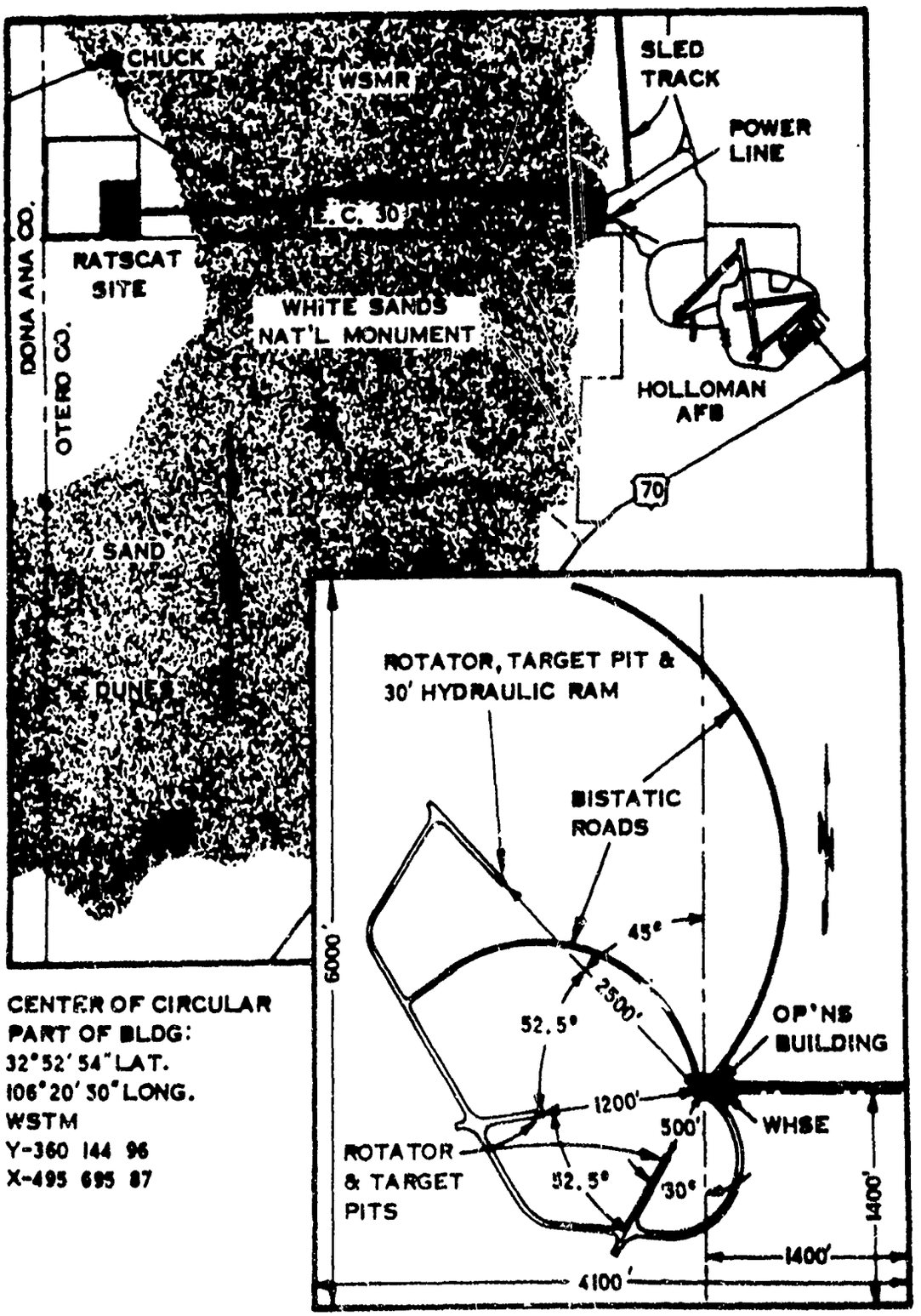


Figure A-1 MAP OF RAT SCAT SITE

TABLE A-1

RAT SCAT CHARACTERISTICS OF ELECTRONIC EQUIPMENT

Power Output	1 KW nominal bands 1 through 8, 25 KW nominal Ku, Ka bands
Pulse Width	0.1 to 1.0 microsecond
Pulse Repetition Frequency	500 to 5000 pps
No. of Receiving Systems	Two per band, (one monostatic and one bistatic)
Receiver Minimum Detectable Signal	-94 dbm nominal
Receiver Bandwidth	2 or 10 Mhz (selectable)
Range Gate Width	0.1 to 1.0 microsecond (50 to 500 feet)
Dynamic Range	70 db
Linearity	$\pm$0.5 db
Equipment Stability	0.1 db/hour (Average)
Analog Data Format	Polar and rectangular plots of cross section, glint and phase vs aspect angle
Digital Data Format	7 or 9 track magnetic (see Appendix C)
Antennas	1, 2, 3, 4, 6, 10, and 16 foot parabolic dishes (smaller and larger dishes available for special tests)
Antenna Feeds	Linear and circular horns with VSWR less than 2.0 to 1.0
Polarization	Horizontal, vertical, circular, elliptical in any transmitting and receiving configuration.
Background Level	As low as -80 dbsm (frequency dependent)
Background Reduction	Tuned columns and vector subtraction by using phase and amplitude measurements to reduce background by 20 db
Phase Measurement	Unique RAT SCAT capability for vector subtraction or scattering matrix applications
Azimuth Resolution	0.1 or 0.01 degree as applicable
Maximum Target Weight	40,000 pounds
Target Size	Greater than 60-foot length
Bistatic Capability	Primary ranges of 458 , 1158 , and 2458 feet for 0 to 160 degree bistatic angle
Frequency Coverage	100 to 18,000 MHz continuous, Ku, Ka bands and 95 GHz

Band 1 - 100 to 250 MHz
Band 2 - 250 to 500 MHz
Band 3 - 500 to 1000 MHz
Band 4 - 1000 to 2000 MHz
Band 5 - 2000 to 4000 MHz
Band 6 - 4000 to 8000 MHz
Band 7 - 8000 to 12,000 MHz
Band 8 - 12,000 to 16,000 MHz
Ku, Ka bands;
95 GHz

Range Length: 300 feet minimum

Building/Pit 1 - 458 ft
Building/Pit 2 - 1158 ft
Building/Pit 3 - 2458 ft
Monostatic Van/Pits 1, 2, or 3 - variable range length

displaced in range is recorded as a transfer standard. Both the precision standard return and the transfer standard return are recorded on the same plot. Thereafter, radar cross section calibration is determined by referencing the transfer standard return for every run. Thus every run is recalibrated. The comparisons of primary and transfer standards accomplished before and after each measurement series are identified respectively as calibration and post-calibration. If the direct ratio of primary to secondary readings is not maintained before and after the measurement series, then all runs between are invalid and must be repeated.

The calibration reference level marked on each data plot is related to the transfer standard level. This reference level may under controlled conditions differ from the actual transfer standard signal level since precision calibrated attenuation is sometimes inserted in the receiver line. When such attenuation is inserted, returns from the transfer standard are reduced to a level compatible with the scale used for the target measurements. The 70 db dynamic range of the plot is placed to include the range of returns expected from the vehicle being measured. In some cases two runs are necessary to be plotted for direct overlay to include the dynamic range of the vehicle if it exceeds 70 db. Calibration plots are included with the target data when requested by the user.

The sphere calibration plots will not necessarily be straight lines. If the background return is within 20 db of the sphere return, for example, a variation in sphere return of approximately $\pm$1db can result. For calibration the sphere is intentionally placed at least 1/2 wavelength off the center of table rotation to insure sufficient phasing with the background return. The average sphere return is then chosen for a calibration level. This avoids the peak errors involved with coherent addition of sphere return and background return and allows the minimum errors involved with non-coherent addition of the returns. This is indicated in Figure A-2.

4. OPERATING PROCEDURES

The following step-by-step procedure is standard in obtaining monostatic radar cross section measurements after frequency, feeds, antennas, antenna height, target height, and pit (range length) have been chosen:

1. Calibration - As described in previous section.

2. Horizontal and vertical probes (field strength measurements at the target area) - Horizontal probes at the target area have been shown to be redundant for azimuthal boresighting. For this reason, these probes are taken only upon request for examination of near field effects.

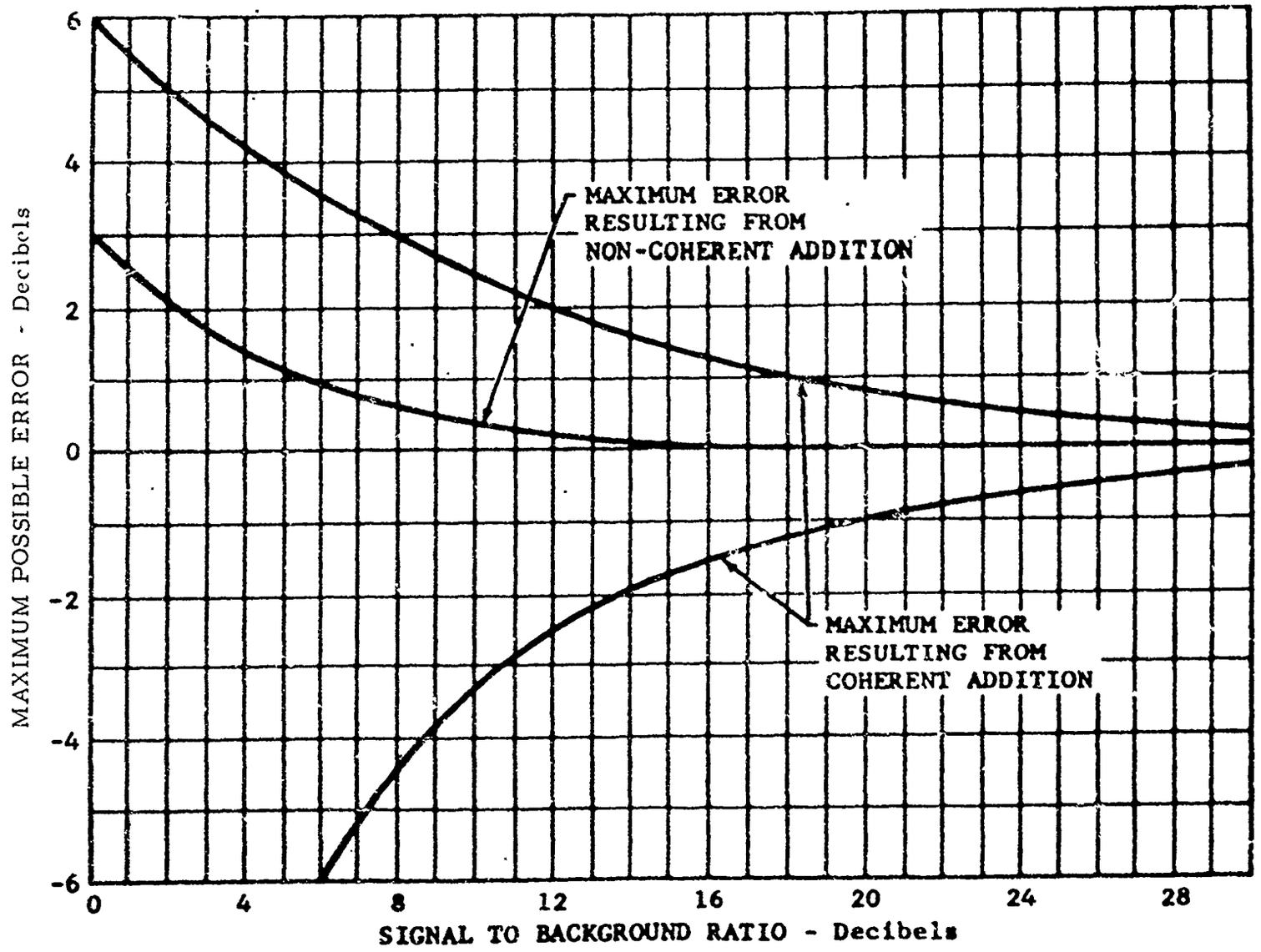


Figure A-2 PLCT OF ERROR INDUCED BY BACKGROUND INTERFERENCE

Vertical probes are taken at the target area to determine power variation as a function of target height. If necessary, antenna height is varied to obtain an acceptable vertical probe which then necessitates a new calibration.

3. Background - The background level with the target mount in place is measured in each polarization to be used.

4. Measurement - The measurement is made with the vehicle in the position previously occupied by the primary standard.

5. Calibration - The primary calibration is repeated to verify calibration (post calibration).

APPENDIX B
TARGET ORIENTATION AND DATA FORMAT

1. COORDINATE SYSTEM

The coordinate system described herein has been adopted as a standard for RAT SCAT operations. The system is referenced both to the vehicle being measured and to the measurement site.

a. Vehicle Reference

A three-axis system, referenced to an arbitrary vehicle, is illustrated in Figure B-1. In this system three mutually perpendicular planes (yaw, pitch, and roll) are passed through the vehicle so that the pitch and yaw planes mutually intersect on the longitudinal axis of the vehicle. These planes remain fixed with respect to the vehicle, regardless of vehicle rotation with respect to the radar or ground plane. The yaw plane, which includes the pitch axis and the roll axis, is numbered from 0 degrees to 360 degrees in a clockwise direction when the vehicle is viewed from above. The nose-on aspect corresponds to 0 degrees, the starboard side of the vehicle corresponds to 90 degrees, and the port side to 270 degrees. The pitch plane, which contains the roll axis and the yaw axis is numbered from 0 degrees to ± 180 degrees; the + 90 degree point is below the center line, and the - 90 degree point is above the center line. The roll plane contains the yaw axis and the pitch axis. It is numbered from 0 degrees to 360 degrees, and the numbers increase in a counterclockwise direction when the vehicle is viewed from the rear.

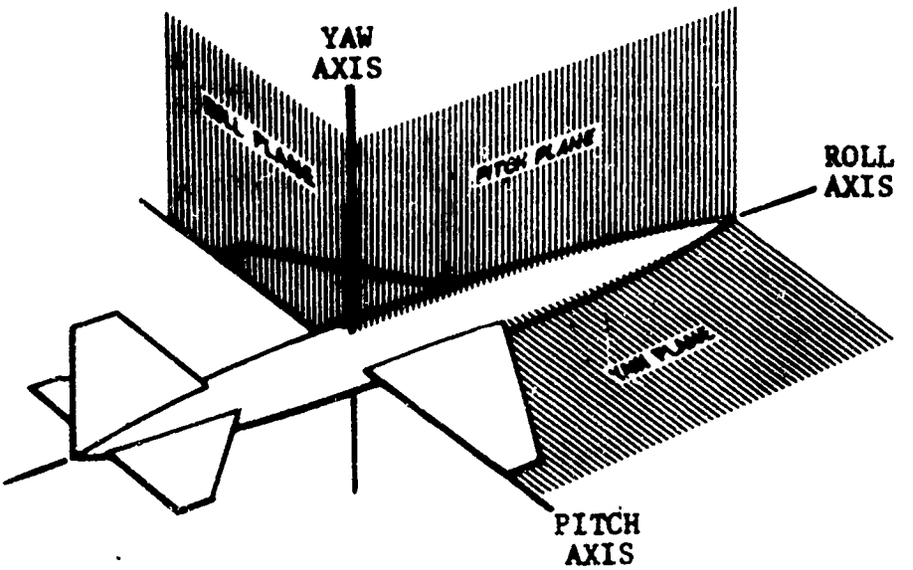
b. Site Reference

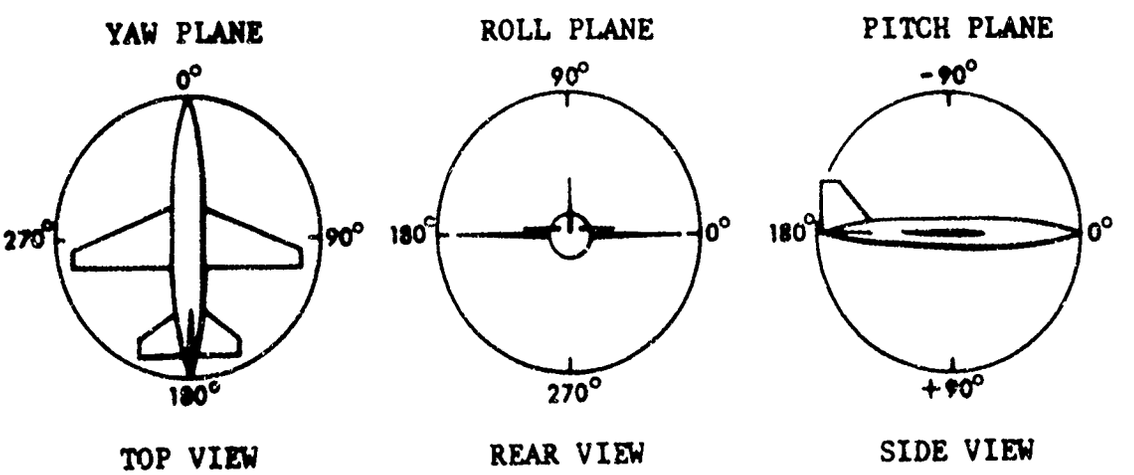
As previously stated the coordinate system is fixed with respect to the vehicle. It is referenced to the site by means of three index marks. The exact value of any of the three angles is determined by noting the value of the vehicle coordinate opposite the index marks. Index marks come from such devices as bubble levels, inclinometers and transits.

As illustrated in Figure B-2, the index for roll angles is normal to the axis of rotation. As illustrated in Figure B-3, the index for pitch angles is normal to the axis of rotation and in line with the apparent source of radiation. For measurements at the RAT SCAT Site, targets can be mounted to provide desired pitch and roll angles.

c. Coordinate System Tilt

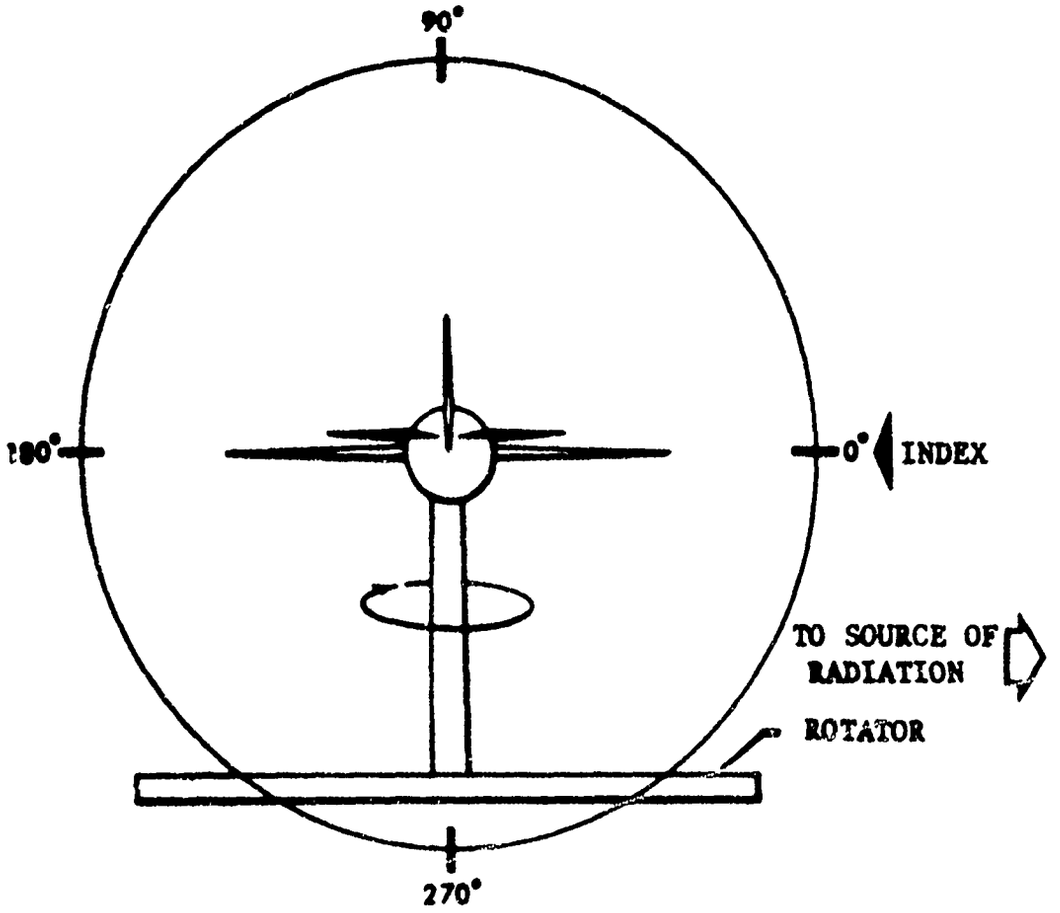
For small targets another angle, tilt, can be utilized in recording useful data. This angle, equipment-limited to less than 15 degrees, is formed by the axis of rotation and the normal to the line of sight to the





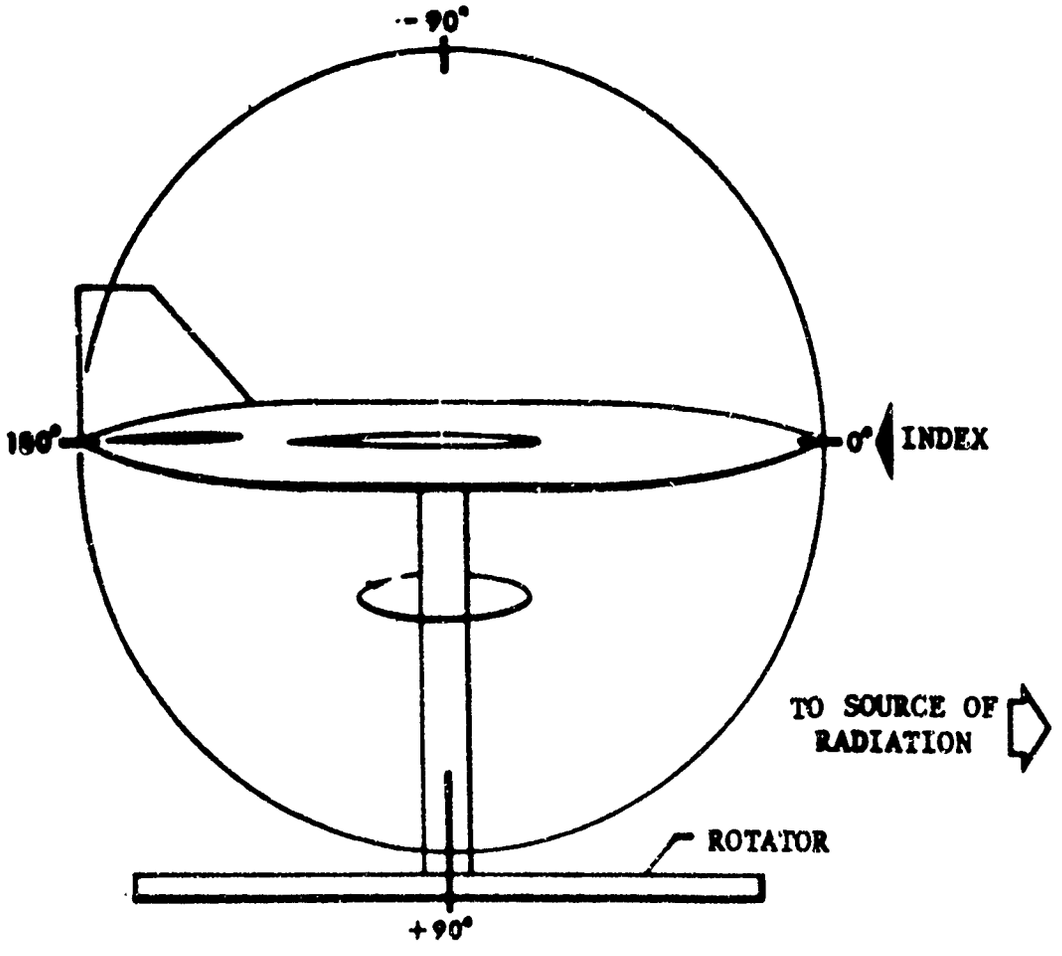
TOP VIEW REAR VIEW SIDE VIEW

Figure B-1 VEHICLE COORDINATE SYSTEM



NOTE: The roll scale is fixed to the vehicle. The amount of roll is determined by noting the number of degrees opposite the index. Clockwise rotation of the target (when viewed from the rear) increases the roll angle.

Figure B-2 TARGET ORIENTATION - ROLL



NOTE: The pitch scale is fixed to the vehicle. The number of degrees of pitch is determined by noting the scale value opposite the index.

Figure B-3 TARGET ORIENTATION - PITCH

apparent source of radiation. Since, ir a ground plane range, radiation can be considered to emanate from a point with zero height directly beneath the antennas, a zero-degree tilted axis of rotation is slightly off the geometrical vertical. This small deviation from the geometrical vertical is neglected in the following discussions.

A target mounted with a pitch angle other than zero displaces the yaw axis from the vertical, but not the axis of rotation. The axis of rotation is displaced from the vertical only when non-zero tilt is employed. Tilting toward the radar is considered positive tilt and away from the radar is negative tilt. For monostatic measurements tilt will be measured in the vertical plane containing the line of sight between the radar and the target. The difference between pitch and tilt is shown in Figure B-4.

2. DATA FORMAT

Data recorders obtain azimuth angle information by means of precision synchro signals from the position of the rotating table. The line of sight from the antennas to the center of the rotator, as illustrated in Figure B-5, indexes azimuth angles. As used here the term azimuth refers to the position of the target rotator table. With zero degrees of pitch and roll, azimuth and yaw are identical. It is standard practice to turn the rotator in a clockwise (cw) direction as viewed from above. Consequently, the azimuth angle varies, for example from 180 degrees (tail-on) to 90 degrees (starboard-side) to 0 degrees (nose-on) to 270 degrees (port-side).

a. Polar and Rectilinear Plots

Essential information pertinent to each plot is contained in the information block located in the upper right hand corner of the rectilinear plots and in the second quadrant of the polar plots. Each rectilinear plot has the recording of the return from the left side of the vehicle on the left side of the plot, 0 degrees at the center, and the recording of the return from the right side of the vehicle on the right side of the plot; 180 degrees (tail-on) appears at the right and left extremeties of the plot, as shown in Figure B-6. Since the paper moves from left to right under the recorder pen, it should be noted that measurements are limited at 180 degrees in order to obtain continuous measurements on the recorder paper. The table on the polar recorder is rotated in the same directions as the target so the 90-degree point appears on the right side of the polar plot, the 270 degree point on the left, and the zero or 360 degree point at the top of the plot.

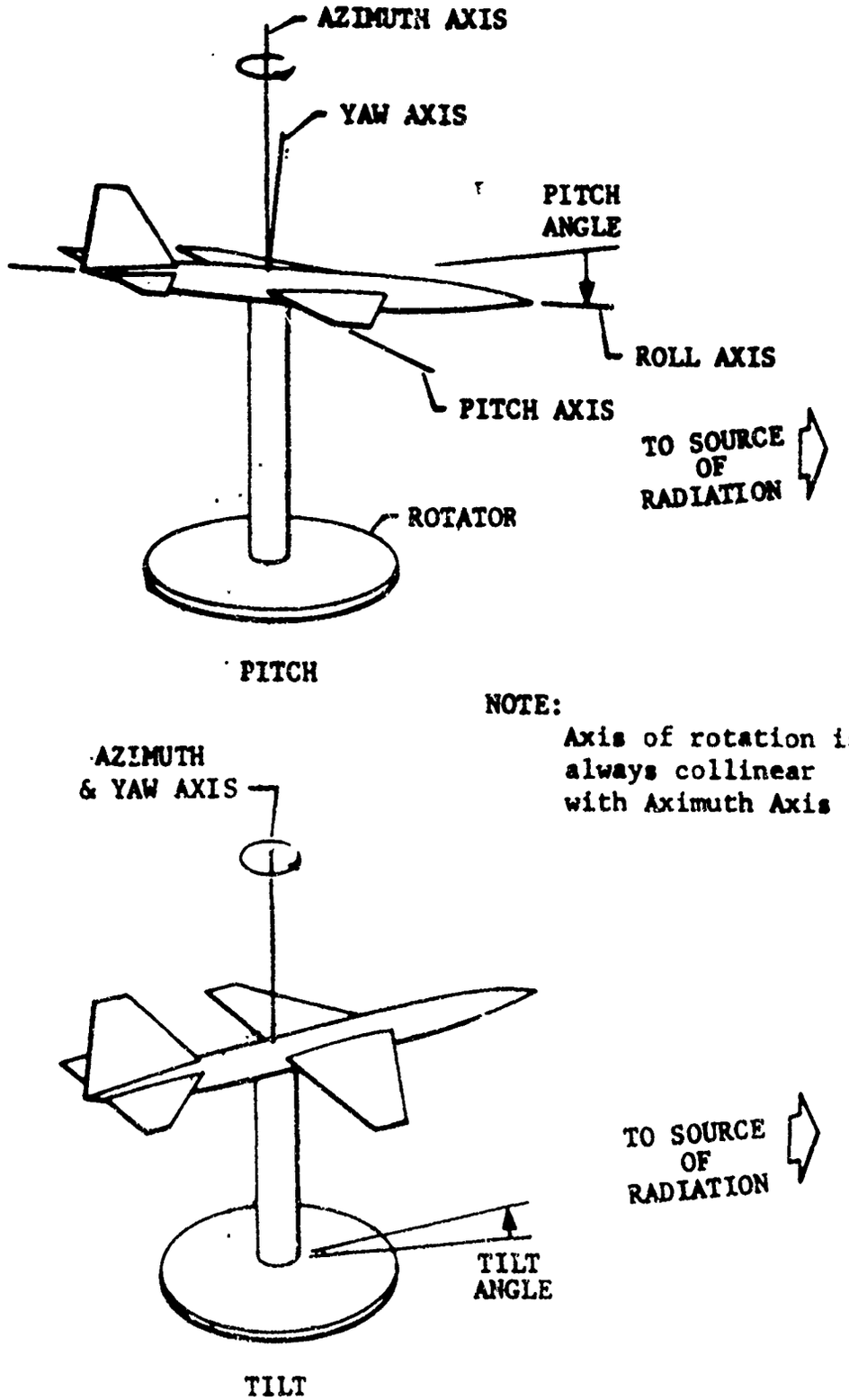
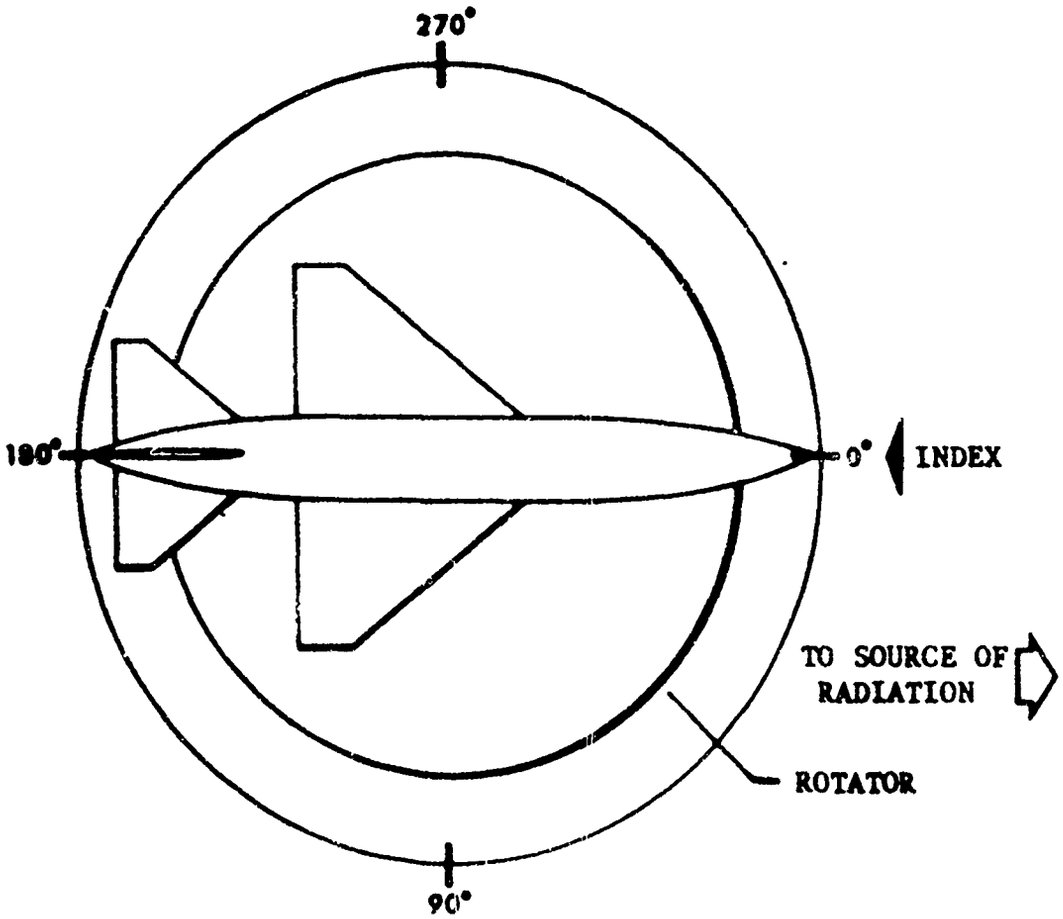


Figure B-4 COMPARISON OF PITCH AND TILT ORIENTATIONS



NOTE: The azimuth scale is fixed to the target rotator. The azimuth value is determined by noting the value of the scale opposite the index mark as the rotator and scale revolve. The index is the line-of-sight from the radar antennas to the center of the rotator. (Azimuth angle data are transmitted to the data recorders by means of synchro signals.) The standard direction of rotation will be clockwise.

Figure B-5 TARGET ORIENTATION - AZIMUTH

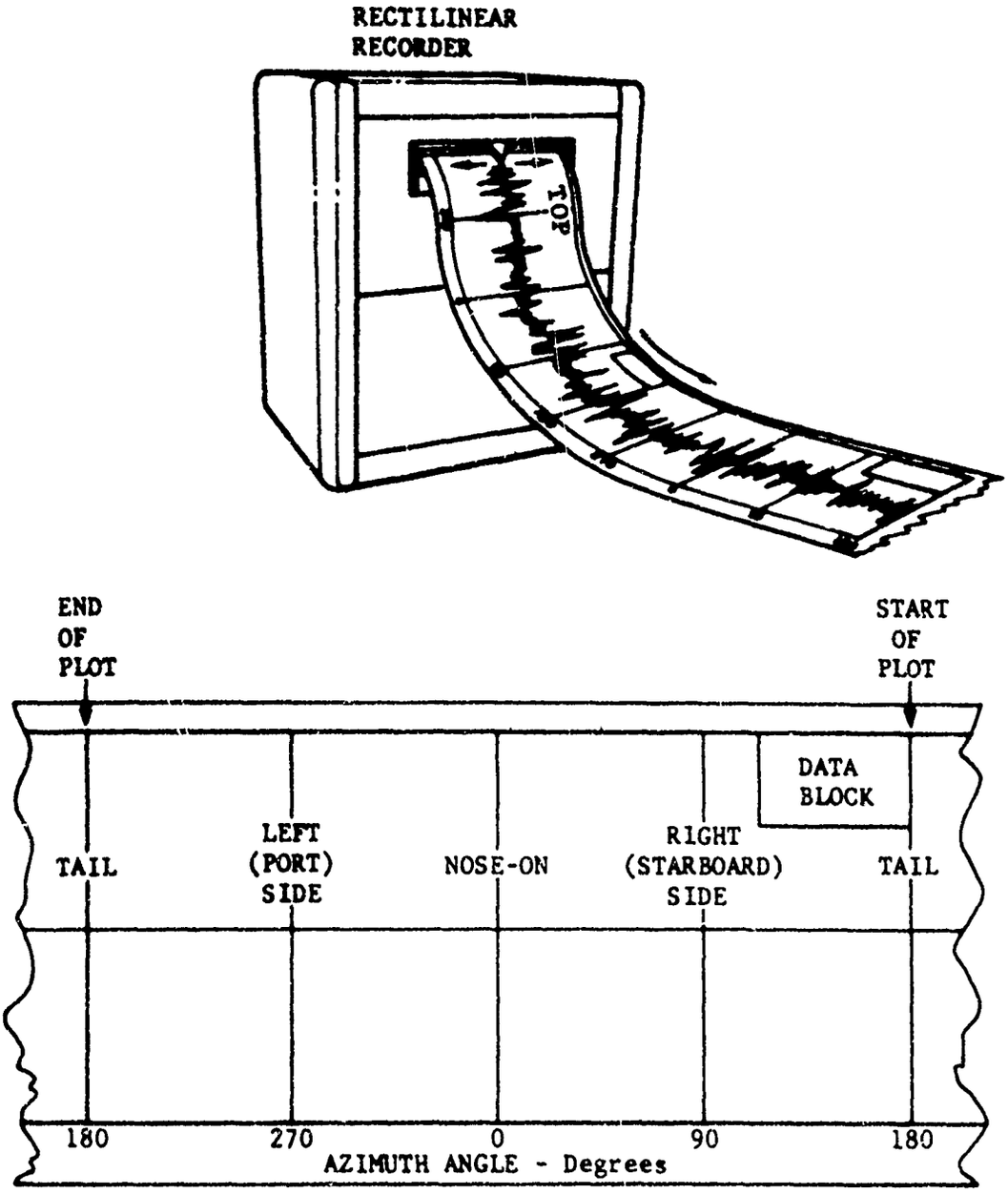


Figure B-6 FORMAT FOR RECTILINEAR PLOTS